Editorial Notes.

THE JURIES BILL.

The Select Committee on the Juries Bill consists of the following seventeen members:—The Attorney-General, Mr. Lopes, the Attorney-General for Ireland, Mr. Raikes, Mr. James, Mr. Kennaway, Mr. Watkin Williams, Mr. W. H. Smith, Mr. Lawrence, Mr. Amphlett, Mr. Pease, Mr. Floyer, Mr. Denman, Sir M. H. Beach, Lord G. Cavendish, Mr. Straight, and Sir Wilfrid Lawson.

THE NEW PETROLEUM BILL.

The above has been introduced in the House of Lords by the Earl of Morley, read a second time, and referred to a select committee. Its object is to amend the Petroleum Act of 1871 by substituting the schedule quoted below for that one in the Act which defines the method of testing petroleum. Instead of fixing the temperature for the flashing point at 100° Fahr. in an open vessel, as in that Act, it will be 80° Fahr. in a closed vessel, presuming that this Bill shall pass. The Act is to come into operation on October 1st, 1872. The following is the schedule:—

Directions for testing Petroleum to ascertain the Temperature at which it gives off Inflammable Vapour.

The apparatus to be employed in this test shall consist of:—

(*a.*) An outer vessel of metal to contain water, about four inches in diameter and four inches deep, so contrived that some source of heat, such as a spirit lamp or gas burner, can be applied to it to heat the water which it contains:

(*b.*) An inner vessel of thin metal to contain the petroleum to be tested, about two inches in diameter and two inches deep, provided with an external rim or flange, above which the edge of the vessel shall rise about one-fourth of an inch, and by which it may be supported in the outer vessel so that its contents may be heated through the medium of the water.

The inner vessel for the petroleum shall be provided with a cover of thin metal fitting to the edge which rises above the rim or flange already described. This cover shall be about half an inch deep, so that its top may be half an inch above the surface of the petroleum to be tested. In the cover there must be fitted a Fahrenheit thermometer with a spherical bulb, in the scale of which ten degrees shall occupy at least half an inch in length; the thermometer must be placed in such a position that the bulb shall be just covered by the petroleum.

Near the front edge of the cover there shall be a circular opening, and through this the petroleum is to be tested. This opening is to be provided with a small moveable cover.

In making the experiment with this apparatus the water in the outer vessel shall in every case be heated to eighty degrees Fahrenheit before the petroleum is put into the inner vessel. When the temperature of the water has reached eighty degrees, the source of heat must be withdrawn; the inner vessel must then be filled with the petroleum to be tested up to the level of the outer rim or flange, which must be indicated by a mark on the inside, and the cover with the thermometer must be put in its place. The source of heat must now be again placed beneath the vessel containing the water, and when the temperature of the petroleum in the inner vessel has reached eighty degrees, a small light should be applied to the circular opening in the cover; if the vapour be not ignited—that is, if no pale blue flash or flicker of light be produced—the application of the light should be repeated at about every two degrees of increase of temperature until the flash of the ignited vapour be observed, and the temperature at which the first flash takes place is the temperature at which that sample of petroleum gives off an inflammable vapour.

In every case a second experiment shall be made to check the results obtained in the first.

A model of the apparatus described above is deposited with the Warden of the Standards, and reference shall be made to it in case of any difficulty or dispute as to the meaning of the terms employed in this description.

IRISH WHISKEY.

Dr. Hodges, of Belfast, has recently had occasion to analyse several samples of "whiskey," and has published the results of his examination in the *Dublin Evening Mail.* Dr. Hodges reports that a bottle of whiskey described as a fair sample of the drink sold in low class public-houses was on examination found to be heavily adulterated with naphtha, cayenne pepper, and vitriol. Another sample was composed almost entirely of naphtha, slightly coloured with genuine whiskey; and a third delectable compound had not even "a colouring" of the genuine spirit, being a pleasing combination of cayenne pepper, vitriol, spirits of wine, and bluestone, which could be produced by any amateur chemist at the rate of one penny per gallon. After this one is not surprised to learn that the physical results of the consumption of this diabolical decoction are "frightful," more especially when one considers that many of the lower order of Irish, during the course of the year, swallow, to quote the immortal Artemus, "several square feet of the seductive fluid," of the composition of which, however, we must charitably suppose them ignorant.

THE PERFECTION OF VERMIN KILLERS.

An instrument elegantly christened the "Deadly Beedle Buster" has been invented in America. It is worked by an air-pump, and its operation is thus described:—All the apertures in the room are stopped but one, at which the "Deadly Beedle Buster" is placed. By exhausting the receiver, a current of air is produced strong enough to draw all the vermin out of the room, through the air-pump, into the hopper, where they are put under the influence of chloroform and stabbed in the back with a pitchfork.

POISONED BY A BLACK DRAUGHT.

The report in another column of the inquest on a sailor, who died after taking a black draught which had been obtained for him from the shop of a doctor, and which it seemed probable contained oxalic acid instead of Epsom salts as its active ingredient, gives us something to think about. The doctor stated that the two draughts which had been sold to this sailor and his companion were the last of an old stock which he had bought from somebody else. If that be true, one would like to ask how many persons since deceased had taken the rest of these oxalic acid draughts, and further, whether our law is not sometimes too readily satisfied with a doctor's certificate.

TAMARINDS AT HOME.

In describing the fruits of the Sandwich Islands, Mark Twain says:—"Then there is the tamarind. I thought tamarinds were made to eat, but that was probably not the idea. I ate several, and it seemed to me that they were rather sour that year. They pursed up my lips till they resembled the stem end of a tomato, and I had to take my sustenance through a quill for twenty-four hours. They sharpened my teeth till I could shave with them, and gave them a 'wire-edge,' that I was afraid would stay; but a citizen said 'no; it will come off when the enamel does,' which was comforting, at any rate. I found afterwards that only strangers eat tamarinds—but they only eat them once."

AN OLD INVOICE.

The following is a copy of an invoice for drugs made out more than seventy years ago. The purchaser was a surgeon on a ship, and the invoice is very carefully written, but has no printing or engraving of any kind about it. Its chief interest consists in a comparison of the prices of that day with those of our era.

London, 23 Feb., 1798.

Mr. T. Greenshields, *Circe.*

Bot. of the Company of Apothecaries.

	lb.	oz.	£	s.	d.
Ung. Basil. fl.	3	0	0	6	6
Cerat. Epulot.	4	0	0	8	8
Camphor	0	2	0	1	0
Pulv. Ipecac.	0	4	0	9	6
Vitriol. Alb.	1	0	0	0	10
Opium	0	8	1	0	0
Sacch. Saturn.	1	0	0	6	8
Magnesia	0	8	0	3	0
Nitr. Purif.	1	0	0	1	4
Ol. Olivar. opt.	2	0	0	4	8
Sp. C. C.	2	0	0	6	4
,, Cinnam.	1	0	0	3	8
Emp. Mercur.	1	0	0	3	10
Ol. Terebinth.	1	0	0	1	4
Pil. Coloc. sx.	0	2	0	3	4
Sp. Lavend. C.	0	6	0	1	10½
,, Vin. Rect.	2	0	0	5	8
Mel. Britan.	4	0	0	6	0
Ung. Hydrarg. fort.	2	0	0	11	4
Sal. Glauber	16	0	0	9	4
Axung. Porcin.	6	0	0	6	0
Tinct. Myrrh.	0	6	0	1	1½
,, Thebaic	1	0	0	9	8
Flor. Sulph.	2	0	0	1	4
Pulv. Cort. Peruv.	4	0	2	4	0
Mum. Arab. opt.	1	0	0	3	8
Ganna 2nd.	1	0	0	5	2
Vials, in sorts	4 doz.		0	7	4
Box, Bottles, Jars, &c.			0	11	2
Tow	9	0	0	6	9
Porterage, Waterage, Freight, & Postage			0	5	5
			£10	16	6

N.B.—10 per cent. discount if paid within 3 months.

Apothecaries' Hall,
26 Feb., 1798.

Sir,—A box containing the medicines, etc., agreeable to your order, was sent last Friday by the hoy directed to you, freight paid.

I am, Sir,
Your humble servant,
S. Backler.

P.S.—It is not usual for the company to receive back empty bottles and pots.

Wholesale druggists would be glad if they could introduce this postscript again.

THE PATENT LAWS.

The Select Committee on the Patent Laws have agreed to certain resolutions, which they will recommend as the basis of legislation on the subject. They state that the privilege conferred by letters patent promotes the progress of manufactures by causing many important inventions to be introduced and developed more rapidly than would otherwise be the case; and it does not appear to them that the granting of pecuniary rewards could be substituted with advantage to the public interest for the temporary privilege conferred by letters patent. At the same time, the existing laws are defective and require improvement; and the Committee think that protection for a limited period, and dating back to the time at which it was applied for, should only be granted for an invention on its nature and particular points of novelty being clearly described in a provisional specification, and upon the report of a competent authority that such invention, so far as can be ascertained by such authority, is new, and is a manufacture within the meaning of the law. They further consider that all letters patent should be subject to the condition that the manufacture should be carried on within the United Kingdom, and that it should be carried into effective operation within a reasonable time from the granting of the patent by the patentee or his licencees.

THE ALBERT MEDAL.

The Albert Medal, which is the great annual honour conferred by the Society of Arts for "distinguished merit in promoting arts, manufactures, or commerce," has been this year awarded to Mr. Henry Bessemer "for the eminent services rendered by him to arts, manufactures, and commerce, in developing the manufacture of steel." The following is the distinguished company, to which the name of Mr. Bessemer is now added:—Sir Rowland Hill, the ex-Emperor of France, Faraday, Fothergill Cooke, Wheatstone, Whitworth, Liebig, De Lesseps, and Henry Cole, C.B. We venture to prophesy and hope that the name of Livingstone will be the honoured one next year.

THE THIRTY-FIRST ANNIVERSARY OF THE PHARMACEUTICAL SOCIETY, MAY, 1872.

(Reported by Joseph Ince.)

There was a sound of revelry by night when upwards of 200 pharmacists partook of refreshment at the Crystal Palace. To speak in the language understanded of by the common people, it entered into the mind of one of the examiners, always zealous in promoting the happiness of others, to form himself into a committee of one, with no power to add to his number, in order to inaugurate an anniversary dinner of the Society.

The day was lovely, the repast was good, and the speeches few and short. We are not in the habit of commenting on post-prandial orations, but we must except the excellent homily by Mr. Brown, of Manchester, on the Medical Profession. Alluding to the illness of the Prince of Wales, he showed how in daily practice the same unwearied devotion was constantly exhibited in equally critical though less conspicuous cases. Dr. Greenhow, who, during the whole tenure of his office as the official superintendent of our examinations, has won for himself the respect of those to whom he stood in a very difficult position, most handsomely responded.

Later in the evening, Mr. Brady, of Newcastle, uttered a note of warning to the British Pharmaceutical Conference. He said that, having now established its claims as an important association, it must base an honourable existence on continued effort and unrelaxed assiduity in original research. His whole speech was worthy of the attention it received, and gave fair promise that Brighton will not be disappointed with its newly-elected President.

Next day came the meeting remarkable for two things; the political horizon was free from clouds, and the opening address contained but one quotation from the Latin.

Mr. Haselden mentioned in touching terms the retirement of Mr. George Edwards from the Council. This gentleman has served continuously since the year 1847. Gifted with an enviable command of language and an elegant, we may add, singularly graceful mode of expression, no one can say that he has ever sunk strength in prettiness; and it is learnt with satisfaction that it is the Council only that will lose the benefit of his wisdom and his active aid.

The report need not be quoted, as it is given *in extenso* by our contemporary. The chief topics were financial statement, library arrangements, registration, the Jury Bill, Provincial Education, and affairs in Scotland. Praise was awarded to the publication of the Year Book, and the whole concluded with a paragraph that had better been omitted, on the attempted Compulsory Poison Regulations. Let the dead bury their dead; it is foolish to rake up the ashes of a fire that should never have been lighted; and there is not one sane person that does not wish the whole discussion safe in the Dead Sea.

What shall we say more? There is really nothing left. A dove in robust health had brought with it an olive branch, and the serenity of the members was unruffled; had there not been a yearning on the part of our country friends to increase their store of knowledge, the chairman might have dismissed the audience with his blessing. That a much more extended educational machinery is earnestly to be desired, none can doubt; how best to get it is a profound embarrassment. The full difficulty was stated admirably by Mr. John Mackay. He did not see in what way he could be just while he was generous; moreover, the case was complicated by the known indifference of those towards whom so much generosity was displayed. Mr. Schacht seems to have shed one definite ray of light upon the matter. He would not scatter the funds of the Society as empty gifts, but offer them as the tangible reward of work produced. London should recognise self-help, not with mistaken kindness pauperize local organizations. Still details of plan are sadly wanting; but that these will be manfully presented and carefully studied by the Council, is as certain as that any sensible proposal will be most warmly accepted.

Never while Pharmacy is a Science, and not a trick to gain a living, let it be forgotten that the Parent Society *did* all before it asked for aught. The pioneers of Pharmacy deplored the low standard, social and intellectual, of the pharmacist; so seeing the need was urgent, they singled out men like Jonathan Pereira and George Fownes, inviting them to come into the wilderness and make the dry bones live; then they asked others to join their ranks and enrol themselves into a corporate body. They opened a large shop, filled it with abundant stock; then they asked customers for patronage and support. The tactics adopted by our founders were those of unfaltering advance, wherefore in due time they secured the approbation of the legislature, a decision in their favour the public have not hesitated to confirm. We bid the provinces all hail! but let them put their own shoulder to the wheel, and afterwards solicit further assistance. It is our opinion that Clifton merits a swinging grant.

Foreign Correspondence.

UNITED STATES.

THE NEW PHARMACY ACT IN NEW YORK.

HELMBOLD SOLD UP.

New York, May 21, 1872.

IN your issue of April 15, your readers were informed that the questions on pharmacy, chemistry, botany, and Materia Medica in that number emanated from the Board of Pharmacy. It was a misapprehension on your part, as they were the questions submitted to the candidates for graduation in the College of Pharmacy of this city. Twelve stuents presented themselves, of whom nine passed successfully. The highest number to be attained was 600; and of the graduates the four highest received 559, 508, 507, 502.

Dr. E. R. Squibb, Professor of Pharmacy, having declined lecturing, owing to the requirements of his business, e will be succeeded by Dr. J. Manlius Smith, a most excellent and able man, and who will prove a worthy successor to one who has done so much to advance pharmacy and elevate its standard. In the other colleges of pharmacy, the corps of professors remain without change.

In this state, the legislature (which was elected last fall with anticipations of its accomplishing great reforms) has adjourned without doing anything like what the people had hoped. It has, however, passed a Pharmacy Act, which has now become a law. It had a fierce opposition to contend against, but it has overcome its assailants without resort to the *usual considerations.* The Board of Pharmacy, which is about to go out of existence, was costing about 17,000 dols. per annum, charging those examined 30 dols. each to employers, and 10 dols. each to clerks, and frequently passing and giving licences to persons who were not fairly entitled to receive them. After various amendments and alterations, the new law as adopted provides, that on the first Monday in June the members of the College of Pharmacy shall elect five persons, of whom three must be graduates of medical colleges, and the remaining two be graduates of some college of pharmacy. The boards of examiners serve without pay, and the fee is to be 5 dols. Those who are graduates or licentiates in pharmacy are registered upon the payment of 2 dols. for pharmacists, and 1 dol. if an assistant or clerk. No persons except graduates or licentiates in pharmacy are permitted to prepare physicians' prescriptions. A schedule is included in the law, which regulates the sale of poisons. The schedules and provisions for the sale of poisons are almost identical with your own Pharmacy Act. The absurd portion of the bill is including three medical graduates and two pharmaceutical graduates in a board to examine pharmacists. The only explananation is that, in the legislature, the committee on health to whom the law was referred had on it a number of physicians from rural districts, who wanted to show their power.

In Philadelphia the Pharmacy Act is much simpler and more just. It recognises all persons now in business, and they are merely required to register and pay a fee not to exceed 5 dols., and only demands the examination of those who desire hereafter to enter in the business in Philadelphia, who are not either graduates or licentiates in pharmacy. No Poison Act is connected with the Philadelphia law. The mayor has appointed as the examining board of that city James N. Marks, C. L. Eberle, J. T. Shinn, Prof. E. Parrish, and R. England.

Some months ago, Helmbold, of Buchu notoriety, left for Europe, and is said to be now enjoying himself in Paris. Soon after his departure, his property here was attached to satisfy his creditors, and recently the store on Broadway near the Metropolitan Hotel was sold at a sheriff's sale. The articles sold at but a small portion of the cost, among them a magnificent soda-water apparatus, said to have cost 8,000 dols., brought but 500 dols. The display of Helmbold's extravagance will be seen no more, and with his disappearance may be noted also that of Tweed and Fisk, all of them fearful examples to the rising generation of folly, ambition, extravagance, and wickedness.

The question of our "next President" is beginning to agitate the people, and in a few weeks the candidates for that office will have been selected by the various political factions. Horace Greeley has received the nomination from a set of discontented politicians, who desire to have President Grant out of his office at the end of the present term. Victoria C. Woodhull, a strong-minded woman, has been nominated by a queer set of people. Of course, no one expects she will be elected, but it would be a national calamity if Horace Greeley should ever reach the White House. Whatever may be the faults of President Grant, his administration has been marked with success and ability. My letter has been rather discursive and lehgthy, and I will drop my pen for the present.

GERMANY.

THE NEW PHARMACOPŒIA.

Dresden, June 7, 1872.

It is intended to introduce the new German Pharmacopœia by a special bill, and as it will be several weeks before it is passed, we may expect to wait some time yet, before this long-hoped for work will reach our hands. By the kindness of one of the commissioners, however, I have been enabled to get a glimpse at the proof-sheets, and shall proceed to give your readers the main substance of the new Pharmacopœia.

The first article is *Acetum*, and is described as a colourless or slightly yellowish liquid, 20 parts of which will saturate one part of dry carbonate of soda; does not contain free sulphuric or other acids. *Acetum Colchici, Digitalis* and *Scillæ* are prepared in the strength of 1 part of the drug to 9 parts of acetum and 1 part of proof spirit; the process of maceration is followed. For *Acetum Scillæ* three days' maceration is ordered instead of seven, as in the British Pharmacopœia. *Acidum aceticum:* Acid acetic glacial Pharm. Britt., 10 parts dissolve 1 part of lemon oil. *Acidum aceticum dilutum:* Acidum aceticum Ph. Britt., contains 30 per cent. of acetic acid, specific gravity 1·040. *Acetum purum:* Acidum aceticum dilutum Ph. Britt., a mixture of 1 part of Acid. acetic. dilut. Ph. Germ. and 4 parts of distilled water, contains six per cent. of Acidum aceticum. *Acidum arsenicosum*, the use of powdered acid of commerce not allowed. *Acidum benzoicum crystallisatum* of the seventh edition of the Prussian Pharmacopœia, has been omitted, and the sublimed acid is the only officinal one now. *Acidum carbolicum crudum* must at least contain 50 parts of pure acid in 100 parts. *Acid. carbolic. p.*—has been already mentioned in a former letter; specific gravity 1·060. *Acidum lacticum*, a clear, colourless, or yellowish liquid of syrup consistence; specific gravity 1·24; soluble in water, spirit, and ether. *Acidum nitricum* is considerably weaker than the acid of the Ph. Britt., containing only 30 per cent. HNO_3, showing a specific gravity of 1·185, while the corresponding figures of the British Pharmacopœia are 70 per cent. of HNO_3 and 1·42. *Acidum muriaticum dilutum* and *Nitricum dilutum* are prepared by mixing equal quantities of the respective acids and distilled water. *Acidum sulphuricum dilutum* 1 part and 5 parts, specific gravity 1·113 to 1·117. *Æther Petrolei*, distilled from American petroleum; very inflammable; specific gravity 0·670 to 0·675; boiling-point between 50 and 60° C. *Æthylenum chloratum, Elaylum chloratum, Liquor Hollandicus*, a clear liquor, in smell resembling chloroform; specific gravity 1·270; boiling-point 85° C; nearly insoluble in water, easily dissolved by alcohol and ether. *Aloes:* Cape aloes is the officinal kind. For the preparation of *Alumina hydrata* the following formula is given. To a filtered solution of 10 parts of alum in 80 parts of cold distilled water add 9 parts of crystallized carbonate of soda dissolved in 80 parts of distilled water. The precipitate is washed till nitrate of baryta causes no turbidity, then pressed between filtering paper and dried. A white, light powder, in water very little, but in diluted acids and solution of soda entirely soluble. Of *medicinal waters* there is a large assortment; we count no less than 39, inclusive of natural and distilled water and Aqua chlorata. *Aqua chamomillæ concentrata* is prepared by distilling 10 parts of camomile flowers (*Matricaria chamomilla*), with sufficient water till 100 parts are obtained. This water is mixed with 2 parts of alcohol, and again distilled till 10 parts are gone over. For dispensing, 1 part of this concentrated water is mixed with 9 parts of distilled water. For *Aqua chlori* no special method is indicated, so that the pharmacist may prepare it as he thinks best, if it is only of proper strength, which is 0·4 parts of chlorine in 100 parts. As mother-plants of *Assafœtida*, Scorodosma fœtidum and Torula Assafœtida are named; of *Balsamum Peruvianum* Myroxylon Sonsonatenze. Instead of *Resina benzoin* of the Prussian Pharmacopœia, the simple name *Benzoin* has again been adopted. The same remark applies to mastic, myrrh, etc. The use of Penang or Sumatra benzoin is prohibited. *Catechu:* The officinal kind is Pegu catechu, prepared from acacia catechu. The use of catechu Gambia and that propared from areca catechu is objected to. *Chiniuni bisulphuricum* soluble in 8 to 10 parts of water and two parts of alcohol. *Chloralum hydratum crystallisatum:* The following tests are given:—Melting point 56° to 58° C., becomes solid at 15° C., and boils at 95° C. Heated with solution of potash it yields a turbid solution, which very soon deposits a clear, colourless layer of chloroform; heated with sulphuric acid it becomes decomposed, separating the chloral, but must not impart any brown colour to the liquid. Dissolved in water it must be of neutral reaction, and when tested with nitrate of silver and a little nitric acid, no chloride of silver should be precipitated; it should attract no moisture from the air. The *cortices* have experienced very little change. Under the heading *Decocta* it is ordered that the proportions of the substances shall be 1·10 if not otherwise prescribed; for a *decoctum concentratum* 1½ to 10, and for a *decoctum concentratissimun* 2 to 10, to be prepared in a water-bath, time half an hour. *Dextrinum*, used for preparing dry, soluble narcotic extracts, is obtained by the following process; 150 parts of potato starch, 750 parts of cold distilled water and 4 parts of crystallized oxalic acid are carefully mixed in a covered vessel and heated in a water-bath, frequently agitating, till solution of iodine fails to indicate the presence of starch. After this, add so much precipitated carbonate of lime that the acid is neutralized. Let the mixture stand in a cool place for two days, then filter and evaporate the clear liquor in a water-bath, till the mass, on touching it with the hands, ceases to stick to them; then it is pulled in pieces and perfectly dried by a gentle heat. It should be dry, inodorous, resembling gum arabic, entirely soluble in an equal weight of distilled water, the solution when mixed with double the quantity of alcohol, yielding a copious precipitate. The watery solution should not become blue-coloured by the addition of tinctura iodi. The formula for preparing *adhesive plaster* has experienced an important change; it is now prepared with oleic acid. Eighteen parts of the latter are heated in a water-bath with 10 parts of finely-powdered lithargyrum, till the formation of plaster is completed; then add 3 parts of colophonium and 1 part of sebum. *Emplastrum Cantharidum* is weaker than the English preparation, being in the proportion of 12 parts of cantharides in 48 parts of plaster, while the latter is 12 in 28. The cantharides are heated with olive oil in a water-bath for several hours, before the other ingredients are added. Instead of the old method of making *dry narcotic extracts* with powdered liquorice root, the new Pharmacopœia has adopted a better plan, which every dispenser who ever experienced the difficulties and trouble attending the weighing out of small quantities of powerful extracts, especially when ordered for mixtures, will hail with pleasure. Ten parts of powdered dextrinum are mixed in a porcelain dish with the same quantity of extract, and exposed to a temperature not exceeding 40 to 50°C., till the mass ceases to lose in weight. To the dry and still warm compound add so much of powdered dextrinum, that the weight of the whole amounts to double the weight of the extract used. As these dry extracts will perfectly dissolve in water, any small quantity of narcotic extract ordered in a mixture can be weighed with the greatest ease, by simply using double the quantity of the equivalent dry extract. *Extractum Aconiti* to be prepared by twice extracting the roots of *Aconitum Napellus* with proof spirit, and evaporating the filtered tinctures to a thick extract. It is more likely that pharmacists will distil off the alcohol instead of evaporating it to no purpose. *Extractum Belladonnæ:* To 1 part of the fresh leaves and young branches are added the first time 1 part of water, the second time 3 parts of water, the leaves, etc., being each time carefully bruised and pressed. The mixed liquors are heated to 80° C., strained, evaporated till 2 parts remain, mixed with the same quantity of rectified spirit, macerated for 24 hours, strained, the remainder again treated with 1 part of proof spirit, the mixed tinctures filtered and reduced to a thick extract. The separated green colouring matter (chlorophyll) is not added to the extract, being considered as of no medicinal value, a circumstance already pointed out by Dr. Mohr in his commentary to the sixth edition of the Prussian Pharmacopœia; and Dr. Hager in the commentary to the seventh edition, says—"The watery solution of extracts, containing chlorophyll and albumen is readily decomposed, with evolution of gases peculiar to the putrid fermentation." These two extracts represent the types for the preparation of the other narcotic extracts. *Extractum colocynthidis comp.* Simple extract of colocynth 3 parts, powdered aloes 10 parts, scammony 8 parts, rhubarb extract 5 parts, mixed by adding some proof spirit, and dried. *Extractum Colombo* is prepared by extracting the root with a mixture of equal parts of water and rectified spirit. A dry yellow brown powder. *Extractum Malthi:* One part of crushed barley-malt is mixed with 1 part of cold water, put aside for three hours, then digested with 4 parts of water for an hour at a temperature not exceeding 65° C., after this heated till it begins to boil, and immediately strained and pressed. The clear liquor is quickly evaporated, stirring assiduously, to a soft extract; 95 parts of this extract mixed with 2 parts of Ferrum pyrophosphoricum cum ammonio citrico, previously dissolved in 3 parts of distilled water form the *Extractum malthi ferratum.* Both extracts are much used here by physicians as well as by the public in general, and it was most desirable to have an officinal recognised formula in order to ensure uniformity in these preparations, which have heretofore differed considerably. *Extractum secalis cornuti:* One part of ergot is macerated for six hours with 2 parts of distilled water, strained and pressed, the remainder again treated with 2 parts of water; the liquors evaporated to the consistence of a thin syrup, then mixed with 1 part of proof spirit, allowed to settle for one day, filtered and reduced to a thick extract. *Extractum nucum vomicarum aquos* and *spirituos* are dry extracts. *Extract. Stramonii* prepared from the fresh leaves, not from the seeds; *Extractum Taraxaci* from the whole dried plant.

In my next letter I hope to finish my report on the German Pharmacopœia. With reference to the Delbrückscho Bill,* a large meeting of pharmacists was held in Magdeburg, April, 22, Mr. Kretschmer, of Breslau, being in the chair. After a protracted debate, the following resolution was carried:—"If the present *status quo* of the pharmaceutical legislation cannot be maintained, and free trade either entirely or with certain restrictions shall be introduced, it becomes the bounden duty of the State to compensate those who, trusting to the formerly established legislation, and with the approval of the respective authorities, invested their money and contracted duties." Finally a committee was appointed to draw up a memorial to be presented to the members of the Reichstag, setting forth all the circumstances that can be brought to bear in favour of the pharmacists. Meanwhile the Petition Committee, which has to report on the several petitions praying for free trade in pharmacy, resolved to recommend these petitions to the consideration of the Bundesrath, and at the present press of business (the Reichstag is to be closed on the 20th inst.), it is not unlikely that the Reichstag will adopt the proposition of the committee without going fully into the subject. If this course is followed, it would not mean that free trade shall be introduced over head and ears, but considering the present tendencies of the Government, it would mean danger in an eminent degree. The next few days must decide it.

PHARMACY IN TURKEY.

By C. W. Quin, Constantinople.

THERE is certainly no nation in Europe, or perhaps even in the whole world, about which so many absurd and erroneous ideas are prevalent at home as about Turkey. Easy-going people without much reading, whose travels have hardly extended beyond Boulogne or Paris, generally have a misty notion that the modern Turk is a lazy, ignorant fanatic, half sunk in the depths of an effete and superstitious barbarism, with a gaily-clad retinue of black slaves and white wives, all of whom live in constant dread of the sack or the bowstring; that, as a rule, he insults Christians when he meets them, and murders them whenever he gets a chance; in fact, that he is the same half-civilized savage that he was in the days of Bayazid the Thunderbolt or Mohammed the Victorious, just four hundred years ago. Even well-informed tourists, who write books of travel, and who ought to know better, often astonish, and more frequently amuse, Constantinople residents by their absurd questions and ridiculous remarks. A short time since I was much entertained at the open-mouthed surprise evinced by a medical acquaintance of mine, who was just fresh from St. Bartholomew's, at a discussion which took place between a young Turkish medical student and myself in excellent French—as far, at least, as the Turk was concerned—on the nature of the choleraic poison; but the Englishman's surprise quickly changed into absolute incredulity when I afterwards informed him that the youngster had never been twenty miles from Stamboul in his life, and that most of his professors at the medical college were Turks. As far as I myself am concerned, I must candidly acknowledge, that shortly after my arrival here some two years back, I was greatly astonished at hearing a warm wrangle between some Turkish students, which took place at an ordinary Pera *café*, of which the only words I could understand were *Bahcon*, *Nerton*, *Hooxlee*, and one or two other celebrated names, that gave me some little clue to the subject of the discussion. Do not, however, let me be misunderstood. I do not mean to assert that the picturesquely-dressed gentleman who sells me figs and grapes is thoroughly well up in the Philosophy of the Unconditioned, that he knows much about the Dæmon of Plato, or even that his educational acquirements extend beyond the chalk lines with which he registers my score on the doorpost; but what I do affirm—and that from intimate personal knowledge—is that the middle-class Turks and other natives of this country of the coming generation will run the rest of their European brethren somewhat hard in the race for knowledge. The desire for education is growing daily stronger and more widely spread amongst every one of the numerous races ruled over by the Padishah, and on all sides we see schools and colleges springing up in which Osmanli and Hebrew, Bulgarian and Greek, Armenian and Serb, can all educate themselves at a cheap rate in every branch of modern knowledge, each in the tongue in which he was born.

The effects of this movement are, perhaps, nowhere more evident than in the progress which has been made in both theoretical and practical medicine during the last thirty years. Before this period the ignorance of the Turks with regard to the healing art was such that every pious Mussulman, of the lower classes at least, believed implicitly that all diseases resolved themselves into two great classes—*Yelanjik*, which included all affections of the head and throat, such as faceache, headache, toothache, etc.; and *Ghelanjik*, which comprehended every other malady of every description whatever. Diseases belonging to the first division were supposed to be cured by the touch of a descendant of the prophet's daughter, Fatmah, the great female saint of Islam, a notion, by the way, not one whit more absurd than ours of touching for the King's evil. I have seen several of the very numerous green-turbaned progeny of the fair Fatmah operating upon their patients outside the mosques in the more remote quarters of far Stamboul, for the superstition still obtains amongst a large number of even well-educated Turks. The *modus operandi* reminds one somewhat of mesmerism. The operator squats down either on a divan or a low stool, and the patient sits on the ground on a cushion or carpet, so that his head is on a level with the hands of the healer, who effects the cure by frequently breathing on his open fingers and pressing them repeatedly on the part affected, reciting all the while certain verses of the Koran, which, as most people know, is the Bible of the Turks. Cures of simple ailments are frequently performed by this means; and I have known a violent attack of neuralgia completely charmed away by this magical process, just as at home I have seen toothache and headache cured by a few mesmeric passes, and other remedies of a similar nature not to be found in the British Pharmacopœia, for faith, as we are all aware, not only removes mountains, but also physical pain. I have little doubt that mesmerism is only another form of this peculiar method of putting human maladies to flight. The second form of disease, *Ghelanjik*, was supposed to be cured by remedies, the composition of which was known only to the members of a certain family. They consisted principally of a wonderful pink elixir, possessed of extraordinary curative properties. The late Sultan Abdul Medjid is said to have been cured of a disorder which baffled all the Court doctors of that day by a certain Meriem Kadin, a female member of the family in question, by being dosed with this marvellous red liquor. The present Commander of the Faithful, Abdul Aziz—may his life be long and his end peace—sets a notable example in this respect, and has the best possible skill and advice always at his command, whether for himself, his household, his harem, or even his horses and dogs.

These magical remedies began to lose their reputation amongst the more enlightened Turks about forty years ago, when a few Greeks and Armenians began to practise medicine—I need hardly say without diplomas. A story was told me a short time back by a medical friend touching one of these gentry, which I hope will amuse your readers as much as it did me. One of these rough-and-ready practitioners was called in to attend a *tooloombajee*, or fireman, whose exertions at a recent fire had driven him into an intermittent fever. The worthy *hekim* applied all the remedies in his small pharmacopœia with but indifferent success. At last one day he called and found the man wonderfully better, and would have naturally ascribed his cure to the latest remedy applied had not the *tooloombajee's* better-half confessed with great trepidation that during the night she had dropped asleep, and that her husband, being tormented with thirst, had got up and swigged off about half a pailful of pickled-cabbage juice that happened to be in the room. The patient recovered, and the good *hekim*, being desirous of following the example of his European brethren, by recording his experience of newly discovered facts and ideas, made the following entry in his notebook:—

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* See last number.

MEM.—*Cure for Intermittent Fever: Half a pailful of pickled cabbage liquor.*

Shortly after this he was called in to attend another fever patent, who was a baker. He at once applied his discovery, but with the unfortunate result of sending the sick man to his long home beneath the waving cypresses of Scutari cemetery. Not to be baffled, however, he tried the same remedy on a butcher, a grocer, and, lastly, on a pasha, but, alas for the powers of pickled-cabbage juice, they soon joined the unfortunate baker beneath the Scutari cypresses! The perplexed medico felt that not only was his reputation as a doctor at stake but his head was in danger, for influential pashas were not to be killed with impunity, just as if they were mere bakers and butchers; he therefore sorrowfully abandoned his favourite panacea, and added the following *addendum* to his first note:—*But it only succeeds thoroughly when the patient is a tooloombajee.* History is, unfortunately, silent as to whether he continued his experiments on *tooloombajees* or not, but perhaps the next time that any of Captain Shaw's brave green-coats fall sick of intermittent fever some of your medical readers may possibly seize the opportunity of trying the efficacy of the Stamboul *hekim's* febrifuge.

On the present occasion, however, I do not mean to allude further to medical science proper, reserving my remarks on its present condition in this country for a future occasion, knowing that pharmacy is the subject in which, above all others, your readers take most interest. I will at once, therefore, proceed to lay before you an account of the position and prospects of the pharmaceutical profession in this city, and of the excellent means which are being taken to place Turkish pharmacists in the front ranks of their European fellow-workers, merely premising that my information is derived from actual observation, supplemented by facts from sources that are as high as they are unquestionable.

Judging from the large number of more or less handsome pharmacists' shops that one meets with during a walk through the principal streets of Galata and Pera—the two quarters of Constantinople corresponding to our City and West End—the profession of pharmacy appears to be in a very thriving condition in this corner of the earth, and even in Stamboul, which is in many things a couple of hundred years behind the rest of the world, many really handsome establishments are springing up, more especially in the large new streets which are in course of construction in the City of the Sultan. Of course we cannot boast of the splendid shops which we meet with in England and France, but there is an air of neatness and prosperity about many of our first-class pharmacies which plainly indicates that the receipts are well ahead of the expenditure. This no doubt results principally from two causes. First, prices are from 20 to 30 per cent. higher than in London or Paris pharmacies of the same class—a prescription, for instance, which at home would be dispensed for half-a-crown, or three francs, would here cost a silver mejidich, or nearly four shillings sterling; and, secondly, the subjects of the Padishah, both Christian and Moslem, are great physic-takers, no doctor being believed in at all unless he deluges his unfortunate patients with draughts and mixtures. An amusing case illustrative of this mania for medicine was lately related to me by a friend of mine, one of the leading native physicians of Pera. He was called in to attend the daughter of a rich compatriot who had fallen into a delicate state of health. He very soon perceived that the young lady required change of air and scene more than anything, and he accordingly contented himself with prescribing for her these good old-fashioned remedies. The next day, however, he was visited by the young lady's father, who begged of him to give his daughter some medicine, as the unfortunate invalid had come to the conclusion that as she had been ordered no medicine her case must necessarily be hopeless, and that she was going to die. The medicine-loving damsel was accordingly provided with half a dozen bottles of some nauseous, but harmless mixture, and a large box of pills of a similar description, and sent off to enjoy them in the balmy air of the Princes Islands, whence she returned in a month or six weeks in full health and strength, and ready to trumpet my friend's praises from one end of Constantinople to the other.

When a Turk, an Armenian, or a Greek feels a pain in his little finger he immediately thinks he is going to die, and rushes off to the first doctor he can find, who writes him a harmless prescription, and pockets his fee. If he is of an economical turn of mind he goes to the nearest pharmacist, who sells him one, if not two or three of the innumerable English, French, or American remedies that cure all diseases in general, and pains in the little finger in particular. During the panic about the cholera last autumn our pharmacists must have netted considerable profits by adding what Mr. John Stuart Mill would call "an unearned increment of value" to their ordinary goods by doubling and even trebling the price of deodorizers and disinfectants.

They must also have reaped a large harvest by the sale of remedies for the cholera, for which every establishment had its own special infallible antidote, warranted to ensure the taker from every possible danger from that dread disorder. I recollect one evening, just as the panic was at its height, going with an Armenian friend to a leading pharmacist to have an anti-cholera prescription dispensed, which had been given to him by an eminent English physician. Before he left the shop the insinuating proprietor had succeeded in so far working on his fears as to induce him to carry away with him two other infallible remedies, mulcting him, therefore, in a sum closely approaching an English half sovereign. I watched the proceedings with intense amusement, and thinking it would be wicked to spoil trade I held my tongue, laughed in my sleeve, and made a mental note of the circumstance for the special benefit of your readers. A morning or two afterwards I had occasion to call at my friend's office over in Stamboul, and found him with no less than four infallible remedies, two of which he was keeping in reserve, and using the other two—one before and the other after his meals. His private-room smelt like a bleach-works, with a strong dash of the entomological department of the British Museum, and on his desk was a bottle of carbolic acid, which, like Hotspur's fop, "he carried to his nose ever and anon." Your readers may possibly think that this is an exaggerated story, but I have really understated the case, for now I remember it he had also a large bottle of ricinized collodion for outward application only. The constant state of terror in which the natives lived during this sad time would have been ludicrous had it not had the effect of killing a large number of them from pure fright.

French, English, and American proprietary medicines—the first, especially, literally swarming on both sides of the Golden Horn—seem to enjoy a large amount of patronage, and you cannot look into a second-rate pharmacist's window without seeing Quina Laroche, Rigollot's Mustard Papers, Injection Brou, Rob Boyveau-Laffecteur, Sirop de Dr. Forget—surely this must be the Waters of Oblivion which we used to read of in the Tales of the Genii—Quinium Labarraque, Capsules Mothes, Ayer's Cherry Pectoral, Perry's Pain-killer, and a few *Estratti* and *Pillole* from Naples or Milan, cheek by jowl with Condy's Fluid, Howard's Magnesia, Curling's Seidlitz Powders, Keating's Lozenges, Cockle's Pills—may their sale never grow less—James's Powder, both the chlorodynes, Dr. de Jough's Cod-liver Oil, and Widow Welch's Female Pills. Besides these familiar productions, we find a large number of the wares of certain firms whose names are not quite so well known to you as those I have quoted. I used to flatter myself at one time that I was acquainted with the names, at least, of most of the wholesale druggists and chemical manufacturers of England, but I must acknowledge that the firm of "*G. Maw and Sons,*" who endorse in very German-looking type the surpassing excellences of a very bad description of court-plaister that is warranted to "*stic withouth filleting*"—whatever that may mean—is quite unknown to me, and I think that even the fair or worthy head of your post-office department, who is popularly supposed to know the names, addresses, and personal qualities of every chemist and druggist in the universe, would have some difficulty in directing a cabman how to drive to the establishment of "*Lington, Brothers, Scotch and Ethen*," who manufacture cod-liver oil, and hail from "325 and 326, *Upper Great-street, London*."

Hair dyes and restorers of all descriptions seem to have a large sale here, being in great requisition amongst the natives, for although the female portion of the community have, as a rule, magnificent heads of hair, the men frequently become prematurely bald and grey from having their heads constantly covered. Your readers are perhaps aware that a Turk considers it a great offence against the laws of politeness to appear anywhere with his head uncovered, and he would as soon think of entering the presence of even a familiar friend without his fess—or fez, as you ignorant Westerns always mis-spell and mis-pronounce it—as you would of walking into church without your coat and waistcoat. Hence, Rossetter's Hair Dye, Mrs. Allen's World's Hair Restorer—by-the-way, which *pole* of the earth does she apply it to?—Ayer's Hair Vigor, Colorigène Rigaud, the Eau des Fées, and a host of other remedies for baldness and greyness, more or less saturnine in their composition, enjoy great favour amongst the would-be Adonises of this part of creation.

Druggists' sundries, such as tooth brushes, nail brushes, feeding bottles, inhaling apparatuses, *et hoc genus omne*, seem to be mostly English origin, and a short time since, I one day really felt quite at home in a remote village on the Asiatic shores of the Black Sea, at seeing a Turkish woman feeding her bouncing, blue-eyed, yellow-haired, English-looking baby out of a sixpenny Maw's feeding bottle, bearing the well-known trefoil trade mark. "One touch of nature makes the whole world kin," so my fatherly and pharmaceutical feelings got the better of me, and prompted me to set the rules of Turkish etiquette at defiance, and inquire if the said substitute for nature's fount was as great a blessing to Anatolian *anas* as to Middlesex mothers. Instead of being treated with scorn, as I half expected, my inquiries were answered by a flood of melodious Turkish bestowing such glowing eulogiums on the *Feringheez marifet, i.e.*, Frankish fakement, that had I been a better Turkish scribe than I am, I should have taken down the good woman's words, and sent them to the inventor of the happy contrivance which has been the means of procuring me and so many other fathers the blessing of undisturbed repose. The poor woman was neither young nor handsome, but she seemed just as fond of her *anussen kouzoussou*, mother's own lamb, as she called him, as if she had been eighteen, beautiful, and born on the banks of the Thames.

Perfumery, including under that term scents, soaps, rouge, *poudre de riz*, and cosmetics of all kinds, are for the most part French, but our old friends Mr. Rimmel and Messrs. Low, Son, and Haydon, are doing all that excellent quality and low prices can possibly do to drive their Gallic competitors out of the market.

So much for the general aspect of pharmacy in Constantinople. In my next I shall be more special in my remarks, and give you an account of the School of Pharmacy and of the laws regulating the carrying on of the profession of a pharmacist. I may also stray over to the Stamboul side of the Golden Horn and dive into one or two of the old-fashioned herbalists, who are the collateral descendants of the apothecary in *Romeo and Juliet*, but who are fast dying out under the new order of things, and I may have something to say on the collection of pharmaceutical products, which is being formed under the direction of Faïk Bey, the Professor of Materia Medica and Pharmacy at the medical school, for exhibition at Vienna next year.

A TERRIFIC explosion lately occurred in the shop of Mr. Bailey, chemist, Nottingham. A quantity of benzoline and paraffin in the cellars exploded. The floor was blown into the street. Mr. Bailey and an apprentice were severely injured, as was also an old man passing in the street, who was taken to the hospital. The damage is estimated at £1,000.

OTTO OF ROSES.

AMONG some Consular Reports which have lately been issued in a Blue-book by the Foreign Office, the Vice-Consul at Adrianople reports that the cultivation of the flower is prosecuted vigorously in the vilaet of Adrianople by the Bulgarian and Turkish peasantry, but that the yield of otto has fallen off during the past five years. During that period the average yield has only reached 600,000 drams, while it should be about 825,000 drams.

This falling off in quantity is mainly attributed to atmospheric influences; one year the flowering season was retarded by sudden frosts; in another the crop was reduced by blight and caterpillars, and so on. The 1871 crop looked very promising indeed in March, but a sudden frost in the budding season in April, and hot and dry weather in May, very considerably reduced its yield, and deteriorated the quality of the oil extracted. It is estimated that the total quantity of oil distilled in 1871* amounts to barely 360,000 miscals.† Of this, 305,000 miscals have already been exported, and the stock in hand is about 120,000 drams, including 37,000 drams from the crop of 1870.

The average price of attar in 1871, free on board at Gallipoli, including 1 per cent. Customs duty, is quoted at 15 pias. per one miscal, equal to about 2s. 9d. per 1½ dram, the pound sterling at 110 pias. This is cheaper than for several years past, as the same quantity has cost in 1867, 3s. 7½d.; 1868, 2s. 11d.; 1869, 3s. 2d.; 1870, 2s. 11d.

Otto of roses is produced in many other places than Turkey. Ghazimpoor on the Ganges is the most important place in India for its production, and some of that produce is brought into the English market. The "Shiraz Plain," in Persia, and the rose districts of "Medinel Fargum," south-west from Cairo, are noted, but no otto reaches the European consumers from these quarters. But the chief proportion of rose oil brought into European markets is distilled on the southern slopes of the Balkan, where are some 150 farms. The most important district for its production is Kizanlik, where it is estimated 500,000 miscals are produced annually.

The roses planted in the basin of Kizanlik have light red blossoms. They are planted in rows like the vine. Sometimes roses and vines are planted intermingled on the same plot. The most important species of roses planted there are "rosa-damascena," "sempervirens," and "moschata." The roses are gathered in their blossom state during the month of May, and are subjected to distillation together with their green calix leaves. The distiller consists of a tinned copper boiler from which runs a pipe into the cooling tub. In every boiler are placed fifty okes of water and ten to twenty okes roses, and the heating takes place over an open fire. The mass is boiled for two hours, the first part of the distilled fluid is put again into the boiler, the then condensing fluid is gathered into bottles of broad bottoms and strait necks. Water and oil are distilling over at the same time, the latter of course swimming on the surface. When there is a layer of oil of the thickness of a finger, it is removed. This is done by a funnel-shaped spoon with a very thin opening at the top, which permits a passage to the water but not to the oil. 5,000 lbs. of roses gives by careful distilling 1 lb. of oil. The best oils come from the colder mountain districts, whereas those from the warmer localities marked strong oils, have a less delicate flavour, but are by the ignorance of the traders often preferred. It is evident that such a valuable substance as the rose-oil is very often exposed to adulterations. The adulterations take place most extensively at the home of the oil, where also the substance for adulteration is produced on a large scale. This article, also an ethereal substance, is called in India "rosia-oil," in Egypt "idris-oil," and in England, "geranium-oil." It is distilled from grass species of "andropogon" and "cymbopopon." The rose-oil is exported in round tinned copper bottles called "kunkoumas," which, when filled, are closed by soldering.

The Turkish Government levies one-tenth of all the otto manufactured, and also taxes all the exportations with a one per cent. *ad valorem* duty. A duty of eight per cent. *ad valorem* is also charged on oil employed for home consumption, in addition to the ten per cent. charged on the manufacture.

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* In the vilaet of Adrianople.

† A miscal is equal to 1½ fl. drm., also called *midkal* and *mettical*.

HISTORICAL NOTES ON POISONING.

THE Professor of Forensic Medicine at King's College, London (David Farrier, M.A., M.D.), delivered a lecture with the above title which is reported in the *British Medical Journal*. We extract the first part, and shall print the conclusion in our next.

The earliest use of poisons seem to have been for the purpose of anointing arrows; and the word which is used to denote poison (τοξικόν) derives its origin from the word signifying bow (τόξον). This custom dates from the most remote antiquity—from the time when men earned their means of subsistence (βίος) by the bow (βιός). It is almost universally prevalent at the present day among the most primitive and savage tribes; and to this custom we owe our knowledge of one of the most powerful poisons that exists. We find frequent allusions to it in the classical writers.

Homer represents Ulysses as sending to Ephyra for poison wherewith to anoint his arrows. The story of Hercules dipping his arrows in the venom of the Lernæan hydra, their deadly effects, and the dreadful accidents which befel Chiron and Philoctetes, are familiar to you all. This story is an indication of the nature of the poison employed; and we have it on the authority of numerous writers, that snake-poison was frequently used for this purpose. Such was the custom of the ancient Scythians, who likewise mixed the venom with human blood, of itself regarded as a virulent poison, in order to intensify the effects. Even at that early period, they had discovered the fact, though its explanation by the physiological relation between absorption and excretion is only of recent date, that, when taken naturally, the poison was innocuous, and was only fatal when directly introduced into the blood by means of a wound. Pliny makes a curious observation in reference to this practice. He looks upon it as a mark of the depravity of mankind; for what other animal (he asks) but man poisons his weapons? Ælian, however, is of opinion that man in this respect has only followed the bad example of the wasps; "for," says he, "the wasps, when they see a dead snake, alight on it, and dip their stings in its venom"—a curious fact in natural history!

Another very ancient use of poisons was for the purpose of the *ordeal*—a method of judicial investigation which also obtains among many tribes at the present day. With this custom we generally associate the physostigma or ordeal bean of Old Calabar. It is supposed that it was a poison of some kind which constituted the *maar*, or *bitter water*, of which we read in the book of Numbers, and which was used as a judicial test of the honour of wives accused of infidelity by jealous husbands. Harmless to one who was innocent, the effects in the case of a guilty woman were dire enough, causing the belly to swell and the thigh to rot. It is very doubtful whether this were really a poison. It is more likely that the dreadful invocations of the imposing preliminary ceremony were sufficient to deter any but an innocent woman from draining the contents of the cup.

One of the most curious chapters in the literature of poisoning is that which relates to the use of poisonous substances in the preparation of *philtres*, or love-potions, which were administered under the idea that the affections of the person so practised on would be gained by the individual who employed them. Though the means adopted were often ridiculous enough, and partook more of the character of sorcery and incantation, yet in many cases they were not of the same harmless nature, and the evil effects which frequently resulted assumed such an importance in the eye of the law, that, even at an early period, the administration of such philtres was looked upon in the same light as more serious attempts of poisoning, and was punished as a capital offence. The idea involved in the use of philtres is no doubt, to a certain extent, based on sound physiological principles, and was probably suggested by an attentive observation of the habits of the lower animals; and it still leads to crime, for we yet occasionally meet with cases in which poisonous substances are employed for a similar purpose by vile and deluded miscreants. There is great difficulty in ascertaining the true nature of many of the substances to which the ancients ascribed such virtues, and in estimating how much truth there is in the narratives which have come down to us.

Many learned commentaries have been written on the *dudaim*, or mandrakes, which were held by the Jews of old in high repute as an aphrodisiac, and also as a cure for sterility—an opinion strengthened by the results which apparently followed its use in Rachel's case. Probably the inquiries have been stimulated by the desire to rediscover a remedy which would be of such immense value to obstetricians! The most likely of the many suppositions which have been advanced respecting this plant is, that it belonged to the natural order of the *Atropaceæ*. This opinion would accord best with the descriptions which we read elsewhere of the effects which resulted from the administration of philtres; viz., a kind of frenzied delirium, such as might be produced by some one of the deliriant narcotics belonging to this group. In all probability, it is to some such plant, in its connection with philtres, that Shakespeare refers when he speaks of

> "The insane root
> Which takes the reason prisoner."

Among the Greeks and Romans, Medea was universally regarded as the greatest adept in the art of preparing philtres; and hence the term "*Medeides herbæ*" was used by Horace and Ovid to designate such substances generally. Next in reputation stand the Thessalian women, who may be supposed to have learnt the art from Medea, and who attained great celebrity in all that related to poisoning, sorcery, and incantation. Hence "Thessalian arts" and "Thessalian poisons" are frequently employed by the classical writers as generic terms, applicable to all forms of poisoning.

Philtres are described by Ovid and others as affecting the reason and causing a phrenzy which sometimes terminated fatally.

> "Philtra nocent animis, vimque furoris habent."

Lucretius, the great philosophical poet of the Ciceronian era, is said to have written his poem "On the Nature of Things" in the intervals of delirium occasioned by a philtre or love-potion secretly administered to him by his wife or mistress, Lucilia; and Lucullus, the Roman general, is stated to have died in a state of delirium from a similar cause. The laws of the Twelve Tables contained special provisions against this form of poisoning. It was included under the head of sorcery, and was punished as a capital offence: "*Qui malum carmen incantat, malum venenum faxit duitve, parricida esto.*"

Though it would appear, therefore, both from the accounts we have received and from the necessity of special enactments against it, that the administration of philtres often led to results far more serious than were contemplated by those who used them, we can hardly regard otherwise than as a subject of amusement the credulity which prevailed even up to a very late period with respect to many substances held in high repute, and supposed to be possessed of marvellous properties. Most of these substances would hardly come under the head of poisons, or even noxious substances, as we understand them; but yet in most countries their administration was forbidden, as coming under the head of sorcery and witchcraft.

The idea which guided the selection of some of the substances regarded as stimulants of love we might understand, though it would be rather difficult to do so in the case of others. One of the most celebrated agents of this sort is the substance called *hippomane*, described by some as a kind of *vernix caseosa* found on the forehead of a newly-born foal; by others, as of a much more disgusting nature ("virus destillans ab inguine equæ coitum maris appetentis"). Animals of various kinds, and parts of certain animals, such as the testicles, the hair from the tip of a wolf's tail, a bone from the left side of a toad devoured by ants, ribs of snakes, etc., were all used as powerful ingredients in love-cups. Menstrual blood, and particularly that of a red-haired woman, was not only greatly esteemed as a philtre, but was regarded also as a most powerful poison. It is a curious circumstance, and one which we find great difficulty in accounting for, that not merely human blood, but the blood of animals in general, was universally looked upon as a poison in ancient times; and that this belief should have been shared by medical writers up to a comparatively recent period. We read in Herodotus that Psammenitus, King of Egypt, was put to death by Cambyses by being made to drink bullock's blood. Such also, according to the popular belief, was the mode in which Themistocles committed suicide. Unwilling to fight against his own countrymen, he drank a goblet of the blood of a sacrificial ox, and expired almost immediately. Even up to the time of Blumenbach, in the middle of the last century, the belief that blood was poisonous was general, and it was treated of as such in many learned works on poisons and legal medicine. Zacutus Lusitanus, writing in 1657, relates many instances of dreadful effects resulting from the drinking of blood. It is worth while quoting one of these. A student, animated by the spirit of practical joking, gave to another, instead of wine, two ounces of the blood of a red-haired woman mixed with sugar. The victim of this joke did not experience any immediate bad effects, but after a day or two he passed into a raving state, and became ultimately a confirmed idiot. One is tempted to remark that the individual in question cannot at best have been far removed from this state, if he could mistake for wine the nauseous mixture offered to him. And, in the opinion of Andreas Cæsalpinus, who nearly anticipated Harvey in the discovery of the circulation, it is to human blood that we owe the origin of one of the most virulent contagious diseases. He traces the origin of syphilis to the fact that the Spaniards, in abandoning the small town of Somma, at the foot of Mount Vesuvius, mixed all the wine of the place with the blood of the patients in the hospital of St. Lazarus.

Blumenbach, in his lectures, recommended his students to make experiments in order to clear up all doubts as to the poisonous qualities of blood. One student experimented on himself, and drank seven ounces of warm bullock's blood without experiencing any evil effects. Another preferred to experiment on a dog, which likewise survived the experiment.

Returning from this digression on blood once more to the subject of philtres, we find that the belief in them was strong even as late as the time of Van Helmont, in the middle of the seventeenth century. Van Helmont himself was fully persuaded of their efficacy, and perhaps the most remarkable statement in regard to them occurs in one of his writings. Here is a translation of it: "I know a plant of common occurrence, which if you rub and cherish in the hand till it becomes warm, and then take the hand of another and hold it till it also becomes warm, that person will forthwith be stimulated with love for you, and continue so for several days."

A plant is mentioned by Theophrastus, to which even more powerful effects were ascribed, but which need not be more particularly specified.

There were not a few, however, even in ancient times, who were sceptical as to philtres. Ovid, who speaks so much of them, had his doubts; and, in a letter to a young lady, he recommends, as far the most preferable prescription, "*ut ameris, amabilis esto.*"

From these and similar truths, the influence of philtres gradually ceased to be believed in, and disappeared from medical literature by the middle of the eighteenth century. Closely connected with the practice of brewing love-drinks was the still more pernicious and dangerous one of dealing in abortifacients. What we now call the crime of abortion was not in the early times regarded as such. False political and social doctrines had much to do with the prevalence of the practice before the dawn of Christianity, and it was not till the time of the early Christian emperors that legislative measures were enacted to check it. It was the custom in early ages not to regard a newly-born child as a human being, whose life was worthy of preservation, till it had been taken up by the father and placed in the mother's bosom. It was at the option of the father whether the child should be exposed or reared. Infanticide, therefore, was looked upon as a regular social institution. Of much less import did it seem to kill a child in its mother's womb, or to cause its expulsion at a time when its death would be certain. The politics of Plato and Aristotle did much to encourage the practice; for they held, as do the followers of Malthus at the present day, that the number of children born every year in a State should be regulated and restricted; and therefore they recommended abortion as a means of checking over-population. This licence was, of course, a premium on immorality; and the evil reached its highest extent in the days of the Roman empire, as the pictures drawn by Juvenal sufficiently show. The morals of the Roman matrons at that time were such as to lead them to resort to the practice on the most frivolous motives. They had an abhorrence of everything which they thought might spoil their beauty or destroy their symmetry of form. They looked upon a pregnant woman as an "*indecens onus,*" and had recourse to abortifacients "*ne rugis ventrem Lucina notaret.*" It is accounted by Seneca as one of the virtues of his mother, Helvia, that she had never been guilty of this debasing vice. The agents who pandered to the licentiousness and vice of this period were numerous, and well-skilled in the knowledge of almost all the mechanical and oxytocic means of procuring abortion with which we are at the present day acquainted. Then, as now, the attempts were frequently followed by fatal consequences.

Though the practice of abortion was not usually considered criminal, and at the worst only visited by moral censure, there were occasions in which it was held as felony. Cicero relates a case where a woman was condemned to death for having, in collusion with the heirs presumptive, practised abortion on herself and thus defrauded her husband of children.

MRS. WINSLOW'S SOOTHING SYRUP—A POISON.

From the "Pacific Medical and Surgical Journal."

My attention was first called to the baneful effects and the enormous consumption of this nostrum, by an article in the November, 1869, number of the *California Medical Gazette*, by Dr. Murray, U.S.A. Dr. Murray had been called to see a child aged six months, apparently in a dying condition from the effects of some narcotic poison. He found that this soothing syrup was the only medicine which had been administered, and of it the child had taken two teaspoonfuls within ten hours. There was remaining in the vial from which the two teaspoonfuls had been taken, ten drachms, which yielded, on analysis by a skilful chemist, nearly one grain of morphia and other opium alkaloids to the ounce of syrup. The specimen of soothing syrup analysed was made by Curtis and Perkins, of New York, who are the only manufacturers.

On the 7th of February, Mrs. W. came into my office with a child five months old in her arms, which she said was very sick, that it slept constantly, and would not nurse or move for several days. The child was breathing heavily, and its pupils were closely contracted. I asked if the child had been taking opium; she replied that it had taken nothing but soothing syrup. She said that on the 5th, two days before, the child was restless and its bowels costive, and that a neighbour had advised her to give it a teaspoonful of soothing sprup, saying it was excellent to regulate the bowels. She had previously given the medicine in small doses. She administered the syrup twice during the day, a teaspoonful each time; the child slept heavily all night, and would not nurse when roused. Not suspecting the syrup had anything to do with its sleeping, she gave on the 6th, at different times, three teaspoonfuls more. The child refused to nurse when roused. On the 7th she gave it another teaspoonful before bringing it to my office. I told her that the child was poisoned by morphia, of which the soothing syrup contained a large quantity. The mother was surprised and alarmed, and had no idea that there was morphia in soothing syrup.

I ordered brandy and coffee, the bowels to be kept open by injections, and the child to be kept awake as much as possible. The child recovered, but was not able to nurse until the 10th. This is but one of the many instances of poison by this nostrum.

Dr. R. S. Maxwell, my partner, was called to see a child five weeks old, to whom half a teaspoonful of soothing syrup had been given a few hours previous. The child was already past all help, and died in a few hours. No other medicine had been given.

In my own case, the child five months old had taken two teaspoonfuls on the 5th, three on the 6th, and one on the 7th, making six teaspoonfuls from ten o'clock on the 5th until eight a.m. on the 7th; consequently it got over half a grain of morphia in the space of forty-six hours. As susceptible as children are to the influence of opium, it seems almost impossible that the child could have lived. In fact, we know that it could not have lived, had not the tolerance of the poison been induced by previous doses in lesser quantities. We may add that there are very few children at the age of six months who would not be poisoned to death were they to take the syrup as directed, namely, six months old and upwards, one teaspoonful three or four times a day until free from pain, unless a tolerance of the drug be induced by its previous administration in small doses. The morphia in a teaspoonful of soothing syrup is equal to about twenty drops of laudanum. Here we have thousands of mothers and nurses, ignorant alike of the ingredients and the effects of this deadly nostrum, directed to give a child six months old morphia equal to twenty drops of laudanum, while a physician would not dare to give a child of that age more than three drops.

Dr. Murray, in the article already referred to, says: "I have ascertained that there are about one hundred thousand two-ounce bottles of it sold annually in this city, containing about one hundred and eighty thousand grains of morphia, which are given annually to the babies of this State."

If the babies of this State consume two hundred thousand ounces of soothing syrup, it is but fair to assume that there is seventy-five times that amount used in the whole United States, which would make 15,000,000 ounces of syrup, or about 14,000,000 grains of morphia. Setting aside the direct cost of this nostrum, it would be scarcely possible to estimate the damages which the people of the United States sustain indirectly from its use.

How much the early resort of our youth to tobacco and alcoholic stimulants is due to the previous use of the opium contained in this nostrum is probably not realised. But that it has much to do with it, anyone can believe, who has seen with what avidity the opium eater, when deprived of his opium, will fly to alcohol, ether, hashish, tobacco, or anything that will lull the eternal craving of the appetite for something other than wholesome food. It would be also impossible to estimate the number of children it sends to the grave before they reach their second year. But that the administration of 14,000,000 grains of morphia annually to the babies of the United States, by persons ignorant of its effects, must destroy its thousands, any reasonable person will be inclined to grant. But a still graver question presents itself, namely—How much of the physical disease, of the drunkenness, of the degradation, and of the vice, and how many of the weakened intellects are due to the use of soothing syrup in infancy? Probably enough to make it a wiser Legislature that will prohibit the manufacture of any nostrum for children which contains opium, than the Legislature that passes a prohibitory liquor law for the benefit of its adults.

[The foregoing startling statements have been extensively quoted in the American medical journals, and have also appeared in this country, and, as far as we know, the proprietors of the nostrum have made no sort of reply. They are under no legal necessity to do so; but the trade has a moral duty to perform in this matter, and we urge them to think of it.—Ed. *C. & D.*]

OUR WRITING FLUIDS.[*]

THERE are few substances with which the druggist is brought more frequently in contact than the contents of the ink bottle: yet the substances are fewer still upon which he allows his thoughts to rest less frequently.

Beyond the act of dipping the steel tongue into the coloured fluid, and lifting as much as will write the directions on a label, or make an entry into the prescription-book, the druggist's thoughts seldom dwell on this useful liquid, at least concerning either its composition or mode of production. It will be the object of this paper to treat of the various substances used in writing, and as far as possible to show the processes by which "our writing fluids" are produced.

The writing fluids of the present day are the result of our commercial requirements, and are altogether unlike, in composition and properties, the ink of the ancients. They wrote; but their ink was what we should term a varnish, or paint, being composed of carbon in very fine division, say either ivory or lamp-black, held in suspension by any drying oil which was most approved of, or mixed with glue after the manner of Chinese ink, which required to be dissolved in water before being used. The ingredients were combined by being rubbed together between stones, as we see painters of the present day grinding their paints. We are even told that the pleasing process of grinding was in schools placed as a punishment on the most indolent; or failing this, the poorer scholars were pressed with the honourable task of keeping the school in ink. There can be no doubt that the carbon contained in these inks, and which is well known to possess peculiar properties of durability, is the cause of the fresh and black appearance which many ancient manuscripts retain, even after several centuries, while those written by our grandfathers fifty or sixty years ago, have in many cases almost disappeared. Even the best modern inks in that time show decided symptoms of old age.

From the care taken in the formation of the letters in ancient manuscripts, it is very evident they were not written in a hurry; neither indeed could they be, seing that the pens used were small brushes, and the ink itself a varnish.

To produce a good modern ink we must bear in mind certain qualifications, viz., a good ink ought to be so thin as to flow freely from the pen: it should be so thick as not to spread or blur on the paper, and it should possess sufficient depth of colour to retain its blackness after many years.

Much of the permanency of even an A1 ink depends on the material upon which it is written, for if we write on paper which has been bleached with chlorine, and the gas imperfectly removed, it has a most deleterious effect on the beauty and durability of the writing.

Concerning the composition of ink. When we look at the usual source, viz., galls, one would at first imagine that gallic acid wrought a most important part in its manufacture, but such is not the case. The galls are used in the process, not because they are rich in gallic acid, which they are not, although it is from them we obtain most of the gallic acid of commerce, but because they contain a high percentage of tannic acid.

A paper on the commercial value of dyestuffs, which appeared in the *Pharmaceutical Journal* of last January, says, in speaking of galls, that the following may be considered as the composition of an average sample of gall nuts:—

Tannic acid	65·0
Gallic acid	2·0
Ellagic acid Luteo gallic acid	2·0
Chlorophyll and volatile oil	·7
Brown extractive matter	2·5
Gum	2·5
Starch	2·0
Lignine	10·5
Sugar, albumen, etc., and ash	1·3
Water	11·5
	100·0

Thus we see that galls only contain a very small proportion of gallic acid. This substance is obtained by exposing the galls for a number of weeks, thereby inducing fermentation, in which the tannic acid becomes oxidised, and converted into gallic acid. The action that takes place is: the protosalt of iron, say the sulphate, is decomposed, the iron combines with the tannic acid, forming a dark bluish-black precipitate, called the tanno-gallate of iron, while the sulphuric acid is set free, and remains as such in the ink. The term "tanno-gallate of iron" is apt, as already shown, to cause a misrepresentation of the quantity of gallic acid, which although it may, and frequently does exist in ink, must be in very small proportion.

If the salt of iron be pure, which is seldom the case in commerce, the protosalts alone should give the black characteristic precipitate with tannin, while it requires a persalt of iron to produce the same result with gallic acid. As this tanno-gallate of iron (?) is a precipitate, and not soluble in the ink, it becomes necessary to add something to give the fluid a body or consistence which keeps this precipitate in suspension; hence the use of gum arabic, which invariably forms part of the formula for ink.

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[*] Read by Mr. Archibald Paterson, before the Glasgow Chemists' and Druggists' Association in Anderson's University, 204, George-street, Glasgow, 21st Feb., 1872, and published by request.

The proportions which appear most suitable, and upon which most dependence can be placed, are—bruised galls, one pound; to this add one gallon of boiling water, and one-third of the weight of the galls, viz., five ounces and a third of sulphate of iron, in solution; also three ounces of gum arabic previously dissolved, and a few bruised cloves, or a few drops of creosote or carbolic acid dissolved in methylated spirit. It is better to allow the galls to macerate for twenty-four hours, then to strain the infusion, and add the other ingredients.

I cannot do better at this part of the subject than offer you a formula used and recommended by that eminent chemist, the late Dr. Penny, of Anderson's University in this city.

Take of bruised galls twelve ounces, macerate for a week in one gallon of cold water, then add six ounces of sulphate of iron in solution, also six ounces of mucilage of gum arabic, and five or six drops of creosote.

The learned doctor has here taken advantage of a fact well known to chemists—viz., that tannic acid is more soluble in cold than in hot water—hence the cold maceration is prescribed, which I believe is pretty generally employed by first-class ink manufacturers.

The celebrated blue-black ink prepared by Messrs. Duncan, Flockhart, and Company, of Edinburgh, is said to be prepared by the process of cold maceration. A formula, said to be that of Messrs. Duncan, Flockhart, and Company, was printed and circulated some years ago by an Edinburgh gentleman, of which the following is a copy, and which explains the process more fully:—

RECEIPT FOR PREPARING BLUE-BLACK WRITING INK

(*Which also serves well for Copying Ink*).

Blue Aleppo galls (free from insect perforation)	4½ ounces.
Bruised cloves	1 drachm.
Cold water	40 ounces.
Purified sulphate of iron	1½ ,,
Pure sulphuric acid (by measure) . . .	35 minims.
Sulphate of indigo (in the form of a thinnish paste, and which should be *neutral*, or nearly so)	0¼ ounce.

Place the galls, when bruised, with the cloves, in a fifty-ounce bottle, pour upon them the water, and digest, often daily shaking for a fortnight. Then filter through paper in another fifty-ounce bottle. Get out, also, the refuse of the galls, and wring out of it the remaining liquor through a strong clean linen or cotton cloth into the filter, in order that as little as possible be lost. Next put in the iron, dissolve completely, and filter through paper. Then the acid, and agitate briskly. Lastly the indigo, and thoroughly mix by shaking. Pass the whole through paper. Just filter out of one bottle into the other till the operation has been completed.

On a large scale, this fine ink may be made by percolation, as Duncan, Flockhart, and Company, and others in Edinburgh, do it, the above being said to be their recipe.

The weights used are avoirdupois, and the measures used are apothecaries' measures.

Note.—No gum or sugar is proper, and on no account must the acid be omitted. When intended for copying, 5½ ounces galls are the quantity.

You will observe that there are several peculiarities about this writing-fluid, viz.:—First, the cold process is used. Second, the want of gum. Third, the use of sulphate of indigo, which is a solvent for the black precipitate, the tanno-gallate of iron; hence the gum arabic is not required, as it is only used to suspend this precipitate. Fourth, the deficiency of iron, which may be accounted for by the *pure* protosulphate being used, which cannot contain, or should not contain any oxide, so that all the iron is free to combine with the tannin. Fifth, the use of free sulphuric acid, which is generally looked upon as detrimental to writing fluids, but which must be introduced here for some purpose, of which I am as yet ignorant.

Thus far I have only spoken of high-class inks, but it frequently occurs that an article is required which is to be sold at a cheaper rate than that wholly made from galls; and the vegetable world gives us an ample range of materials to select from, many of which contain tannin in fair quantity.

In this case other ingredients may be substituted instead of part of the galls; thus we often see logwood substituted, and catechu, sumach, and oak bark may be used for the same purpose. Many other substances, such as elm-wood, elder, chestnut, beech, willow, plum, cherry, and poplar, all contain a certain amount of astringent properties, but none of them are to be compared to galls, and are not likely to supersede them in the manufacture of ink, so long as galls can be had for anything like a fair price. The chemist cannot decide in fixing the proportions required for making ink as he would do almost any other chemical problem, as the substances used are not all of the same relative value, nor, indeed, may two samples of the same substance be equally rich in the material required—viz., tannin; so that he must make an analysis every time he prepares his ink, to estimate the value of his tannin producer, or what is more convenient, he must fix on certain proportions which are known to produce (by experiment) good results, and do his best in selecting his materials up to a fair average standard.

Thus we see, that although galls are used at present as the most suitable substance for making ink, still any failure or stoppage of supply in the production of galls can never now leave us entirely dependent on that source for the preparation of "our writing fluids."

It would be impossible, and, if possible, would be uninstructive, to mention all the substances which have found their way into formulæ for inks, many of which are not only foolish, but incompatible, showing a want of chemical knowledge.

Let us now glance at the properties of the various ingredients used in the process. If we use an excess of galls we simply throw away money, and render the ink more liable to mould. If we use an excess of iron, the galls being insufficient to decompose it, the characteristic colour of its oxide is soon shown by the writing becoming brown. The use of an excess of gum causes the ink to clog the pens, and the writing to be wanting in fluency. About twenty-five years ago an ink named *Japan ink* was very much in use; it produced a beautiful glossy appearance when written, but clogged the pen so much that it soon fell into disuse; its defect was too much gum. The water should be as soft as possible—that is, it should contain no lime, or other earthy matter; hence rain water, or, better, distilled water, is frequently prescribed in receipts for making ink. The cheapest ink which has hitherto been introduced, is one composed of a saturated solution of logwood, obtained by boiling twenty-two pounds of logwood in a sufficiency of water to produce, after being strained, fourteen gallons of liquor; to this decoction one pound (avoirdupois) of yellow chromate of potash (not bichromate) is added in solution; the proportions are one thousand parts of solution to one of chromate; the change of colour is not an immediate one, but gradually becomes darker. The experiment may be tried, on the small scale, by using logwood a quarter of a pound boiled in water to produce two pints, to which, when strained, add twenty grains of chromate of potash in solution.

We will now glance at the composition of "writing fluids" used for special purposes; thus we know that writing which is intended to be copied is written with ink containing either gum, sugar, treacle, glycerine, or some such substance, which causes the writing to retain moisture, so that a copy of it may be produced even after the original writing has become dry, by being simply damped and pressed.

The following formula requires no press, but may be copied by placing a damp sheet of copying-paper on the writing intended to be copied, above this sheet of copying-paper a sheet of ordinary writing-paper must be placed, and then pressed with a paper-knife.

COPYING-INK.

Mix.—Thirty grains of extract of logwood.
Seven grains crystal soda.
Half an ounce of water.

Boil till dissolved; then, while stirring well, add thirty grains of glycerine, one grain of chromate of potash, previously dissolved, and four grains of powdered gum arabic.

INDESTRUCTIBLE INK FOR DEEDS, &c.

Dissolve twenty-five grains of powder gum copal in two hundred grains of lavender oil by the aid of a gentle heat; then add two and a-half grains of lamp-black, and half a grain of powdered indigo.

Another for the same purpose.

In eighteen fluid ounces of water boil shellac, two ounces, and borax, one ounce; when cold filter and mix with one ounce of gum arabic dissolved in two ounces of water, to which add powdered indigo and lamp-black as much as may be required.

RED INK

Is commonly prepared by boiling brazil wood, two ounces, in thirty-two ounces of water, to which add, after the decoction has been strained, half an ounce of chloride of tin, and one drachm of powdered gum arabic; then evaporate to sixteen fluid ounces.

Or,

Dissolve carmine, one drachm, in half a drachm of liq. ammon., fort. (sp..gr. 880), then dissolve twenty grains of powdered gum arabic in three ounces of water, which add to the dissolved carmine.

BLUE INK

May be prepared by dissolving two or three ounces of sulphate of indigo in a gallon of water; or by rubbing together one ounce of oxalic acid, and two ounces of fine Prussian blue, to which add one quart of boiling water.

INK POWDER

May be prepared by mixing—

Powdered galls, four ounces.
Powdered sulphate of iron, one ounce.
Powdered gum arabic, one ounce.
Powdered white sugar, half an ounce.
Powdered cloves, one drachm.

To these proportions add of water one quart, and macerate for an hour or two.

Note, the quantity of sulphate of iron is small because it has been dried, and has thus lost the weight of water evaporated.

INK IN CAKES

May be prepared by evaporating good ink to dryness in shallow dishes, but the best results are obtained by dissolving Chinese ink in water.

MARKING-INK.

This substance is so well known, that little may be said on the subject. The process is founded on the chemical fact, that by applying heat to a salt of silver in combination with other ingredients, the writing becomes immediately, and should remain permanently black; the formula of Professor Redwood is a good one :—

Dissolve separately—nitrate of silver one ounce, crystal carbonate of soda one and a half ounces; mix the solution, and collect the precipitate on a filter; wash well, then introduce the moist precipitate into a mortar, and add eight scruples of tartaric acid; triturate till effervescence ceases; then add of liq. ammonia fort. a sufficient quantity to dissolve the tartrate of silver, to which add four fluid drachms of archil, four drachms of powdered white sugar, and twelve drachms of powdered gum arabic, and make up to six fluid ounces, if required, with distilled water.

CRIMSON MARKING-INK

Is prepared by adding six grains of carmine to the liquor ammonia of the above formula, but it soon loses its crimson colour, and becomes, like other marking-inks, a black colour.

In conclusion, I cannot lay aside this subject without referring to the beauty, brilliancy, and variety of colour produced from aniline, whereby we can procure any shade from the most brilliant scarlet to the most sombre black, and should we at any time be deprived of ink from the present sources, we may rest content that so long as our coal fields yield their sparkling riches, so long may we, without fear, look forward to an unlimited supply of "Our Writing Fluids."

An interesting service was held last month in the parish church, of Rye, Sussex. The Bishop of Chichester attended to perform the ceremony of admitting Mr. A. W. Smith as a "licensed reader," to which office the vicar had invited him. Mr. Smith has been very active in all works in connection with the Church, and has frequently officiated as a lay reader. Mr. Smith is a chemist and druggist in the town, and is well known in pharmaceutical circles.

PATENTS

[The following list has been compiled expressly for the Chemist and Druggist by L. de Foutainomoreau, and Co., Patent Agents, 4, South-street, Finsbury, London; 10, Rue de la Fidélité, Paris; and 33, Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following :—

8529. C. C. Molchin, of Westminster. An improved composition oil or liquid useful particularly for illuminating purposes. Dated 30th December, 1871.
154. A. S. Stocker, of Horsleydown. Improvements in the application, construction, manufacture, and combination of articles appertaining to infant's feeding bottles and other receptacles, and in the machinery, apparatus, process, and means to be employed in producing and finishing, the same part of which process is applicable to the production of other articles. Dated 18th January, 1872.
809. J. L. Pulvermacher, of Regent-street. Improvements in electro-conducting and electro-generating apparatus or appliances for medico-electric and other purposes. Dated 18th March, 1872.
1006. J. Ormerod and D. Spiers, both of Waterfoot, near Manchester. Improvements in the mode or manufacture of a red colouring matter. Dated 5th April, 1872.
1134. D. Dubbin, of Lewisham, Kent. Improvements in self-acting stands for beer or other casks. Dated 17th April, 1872.
1136. A. V. Newton, of London. An improved mode of, and apparatus for, preserving animal and vegetable substances. Dated 17th April, 1872.
1140. B. J. B. Mills, of London. Improvements in apparatus for the extraction of oil, fat, or resin, from vegetable or other solid matter by chemical agency, and the recovery of the chemical employed. Dated 17th April, 1872.
1145. W. E. Newtown, of London. Improvements in distilling apparatus, Dated 17th April, 1872.
1154. W. B. Robins, of Shepherd's Bush. Improvements in hand-pumps or syringes. Dated 18th April, 1872.
1171. J. Barrow and C. J. Crosfield, of Liverpool. Improvements in utilizing certain saccharine syrups, and in apparatus employed therein. Dated 19th April, 1872.
1173. S. and T. Kay, of Stockport, Chester. Improvements in feeding bottles, parts of which are applicable to other purposes. Dated 19th April, 1872.
1176. W. R. Lake, of London. An improved process of treating animal and vegetable fats or greases for the purpose of obtaining stearine and oleine therefrom. Dated 19th April, 1872.
1201. L. Foutana, of Paris. Improvements in the treatment of certain substances employed for some surgical and therapeutical applications. Dated 22nd April, 1872.
1243. S. W. Rich, of Chenies-street. Improvements in the manufacture of sulphates. Dated 25th April, 1872.
1257. W. R. Lake, of London. Improved processes of treating phosphatic rock and other phosphatic substances for the extraction of the phosphoric acid or soluble phosphates therefrom. Dated 26th April, 1872.
1267. H. J. Smith, of Glasgow. Improvements in extracting metallic oxides, and in precipitating oxides from metallic solutions. Dated 27th April, 1872.
1299. J. Bending, of Oxford-street. Improvements in apparatus for producing vapours for medicinal purposes. Dated 30th April, 1872.
1327. T. Christy, jun., of Fenchurch-street. Improvements in the treatment of ammoniacal and other liquor of gasworks, sewage, and other waters containing foreign matters in suspension or solution in order to obtain useful products therefrom. Dated 2nd May, 1872.
1373. T. J. Donne and A. Heutschel, both of Mile End. Improvements in preserving meat Dated 6th May, 1872.
1404. J. Arnold, of West Smithfield. Improvements in enemas or injection apparatus. Dated 8th May, 1872.
1437. J. V. P. Lagrange, of Paris. Improvements in the treatment of saccharine juices and syrups. Dated 11th May, 1872.
1442. W. Gossage, of Widnes, Lancaster. Improvements in the manufacture of certain alkaline carbonates, for the purpose of obtaining carbonic acid gas therefrom. Dated 11th May, 1872.
1492. T. Christy, jun., and A Robrowuicki, both of Fenchurch-street. Improvements in the treatment of ammoniacal liquors of gasworks in order to obtain valuable products therefrom. Dated 16th May, 1872.
1525. E. Solvay, of Brussels. Improvements in the manufacture or production of carbonates and bicarbonates of soda and accessory products thereof and also in apparatus used in such manufacture. Dated 18th May, 1872.
1539. W. Weldon, of Putney. Improvements in the manufacture of soda, potash, hydrochloric acid, and chlorine. Dated 21st May, 1872.

Letters Patent have been issued for the following :—

2926. A. P. Vassard, of New Cross, Kent. Improvements in treating liquid sewage and other ammoniacal liquors. Dated 1st November, 1871.
2972. C. Townsend and A. Rollason, of Bristol. Improvements in the treatment of materials and fabrics, rendering such materials and fabrics waterproof and transparent, and also for adapting them to general and surgical purposes. Dated 4th November, 1871.
8130. S. H. Emmens, of Gresham-buildings. Improvements in purifying distillates from carbonaceous or bituminous substances. Dated 18th November, 1871.

3143. J. Hall, of Newcastle-on-Tyne; T. Gibb and C. Gelstharp, both of Jarrow-on-Tyne. Improvements in the manufacture of soda and potash, and of the carbonates thereof. Dated 21st November, 1871.
3153. J. H. Johnson, of London. Improvements in combined apparatus for the filtration and distribution of water. Dated 21st November, 1871.
3182. J. Johnson, of Addlestone, Surrey. Improvements in the construction of bedsteads adapted more particularly for invalids. Dated 24th November, 1871.
3183. A Annandale, jun., of Dunbar, North Britain. Improved means or processes for treating waste acids and alkalies resulting from the preparation of ligneous fibres or bodies used in the manufacture of paper or paper pulp. Dated 24th November, 1871.
3192. J. Hargreaves, of Widnes, Lancaster. Improvements in treating dilute chlorine to separate impurities therefrom. Dated 25th November, 1871.
3257. C. Nightingale of Tynemouth, Northumberland. An improved mouthpiece for protecting the wearer against atmospheric influences. Dated 1st December, 1871.
3305. A. Ball, of Spalding, Lincoln. Improvements in invalid beds and couches, and in fittings therefor. Dated 7th December, 1871.
3455. W. Anderson, of Inverkeithing, Fife. Improvements in domestic apparatus for rendering sewage gases innocuous. Dated 21st December, 1871.
223. A. Ford, of Notting-hill. Improvements in the mode of treating linseed and other seed and vegetable oils, so as the better to fit them for employment in the arts and manufactures. Dated 24th January, 1872.
288. P. W. Seymour, of Canning Town, Essex. Improvements in the construction of portable magnets to be employed for curative and other purposes. Dated 30th January, 1872.
404. J. H. Johnson, of London. Improvements in the production of alcoholic and other fermented liquors. Dated 7th February, 1872.
525. W. R. Lake, of London. Improvements in cases or vessels for packing caustic alkalies, acids, salts, and other like materials, and in apparatus for forming the same. Dated 17th February, 1872.
571. E. Konigs, of Irvine, Ayr, North Britain. Improvements in obtaining sulphate of soda or of potash and hydrochloric acid or chlorine. Dated 22nd February, 1872.
812. E. Gibon, L. Dusart, and C. Bardy, all of Paris. An improved process for converting starch and other feculent and cellulose substances into saccharine matter or gum. Dated 18th March, 1872.
969. B. Platt, of Widnes, Lancaster. Improvements in purifying turpentine and resin or resinous substances and obtaining the spirit therefrom, and in apparatus employed therein. Dated 2nd April, 1872.

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A CHAPTER ON MICROSCOPY.

DR. CARPENTER has remarked that, "to those who desire a rational occupation of their spare time and something which shall give an attraction to the ordinary work of life, nothing can be superior to the microscope." It is not possible here to venture in ever so slight a degree into the *details* of microscopic study, but we may endeavour to outline a course which, if pursued with ordinary intelligence and perseverance, will certainly lead to satisfactory results.

We assume first the purchase of the instrument—say a "Student's," with B eye piece and ½ inch combination objective, dividing so as to form 1 inch and 1½ inch—which, with condensing lens, diaphragm, and all necessary adjuncts for a beginner, need not cost more than a £5 note. Putting technicalities on one side, and shelving for the time all ideas of reflection, refraction, and diffraction, spherical and chromatic aberration, prisms, illuminators, and so on, the student may begin by placing a simple object—the wing of the house-fly—on a slide, with a thin glass cover gently pressed on it, and carefully examine it as a transparent and opaque object with each of the powers—the lowest first—and under various modifications of light. The examination should be repeated again and again. His common sense and dexterity will be his aids in all he does, and bringing these into play he will readily master first difficulties. Numbers of articles appertaining to pharmacy will afford him material for work and study. Some small seeds, as henbane and poppy, are beautifully marked. The crystallization from a drop of the solution of a salt—say sulphate of magnesia, or bichromate of potash, or the elegant fern-like crystals of camphor from the spirit, minute crystals—as quinine or salicine, fibres of cotton-wool or lint, the granules of the starches, may be taken as so many starting points in the selection of objects for examination to be found ready to his hand. Or, taking a step in another direction, we may suppose that in the shop is placed an ordinary leech-aquarium, in which may be growing the elegant vallisneria (*V. Spiralis*), or the ubiquitous choke weed (*Anacharis Alsinastrum*). In either of these, the former especially, the cellular circulation may be well seen with the ½ inch objective. A thin longitudinal section shaven off with a sharp knife should be placed on a slide with a drop or two of water, and covered with thin glass, or, better still, placed in the animalculæ cage, and the cover gently pressed on it. The shock caused to the portion cut off will probably check all motion for a time, but a little quiet, and the stimulus of the warmth of the lamp or sunshine will soon restore it, and truly interesting is the sight. The protoplasm will be seen rotating round the cell, carrying with it the chlorophyll globules and the nucleus, the latter appearing as a miniature iceberg in a maelstrom. Similar circulation may be seen without cutting, though less plainly in the leaf of the anacharis, near the midrib. Again, attached by its sucker to one of the plants, or perhaps to the side of the aquarium, may be found the curious hydra (*H. Veridis or H. Fusca*), which, with its fishing tenacles and budding offspring, forms a curiously interesting object for a low power. Among the numerous smaller tenants of our miniature ocean will be noticed the agile cyclops (*C. Quadricormes*), or the odd little water-flea (*Daphnia pulex*)—a flea in cockle shells, the extreme transparency of which, however, allows the various physiological operations corresponding to many which, on a larger and more complex scale, are performed in the bodies of animals of a higher order to be distinctly seen. The deglutition of particles of food (chiefly the smaller animalculæ), and their disintegration by the masticatory apparatus of the gizzard, their subsequent transference to the digestive or alimentary canal, and final excretion; the pulsation of the heart, and the circulation of the nutritive fluid and particles (serum and corpuscles may we call them?); the contraction and relaxation of the muscles of the eye; the rapid motion of the gills (both lungs and feet to this creature) causing a powerful current constantly to pass between the shells, aërating the blood, and bringing a supply of food to the mouth; all this, and much more, in an animalculæ, for which the head of a pin would afford good standing ground! Should a tadpole or tiny fish be procurable, it would be interesting now to examine, under similar circumstances to the Vallisneria leaf, the circulaculation of the blood as seen through the transparent part of the tail. The student may then proceed to examine such objects as the eyes, legs, antennæ, and eggs of insects, the pollen of flowers, scales from the wings of moths or butterflies, hairs—vegetable and animals, lice and mites, and dive, if he will, into the wonders of infusorial life.

As to the general management of the instrument itself, it is necessary, of course, that it be placed on a firm table or desk, where the vibration shall affect as little as possible; that great care should be taken of the mechanical portion of the stand; that, in focussing with low powers, the coarse adjustment should alone be used; the fine only when absolutely necessary, and then carefully. With regard to light—a very important matter indeed, it will be found that, for beginners at any rate, a lamp is the most convenient and easily managed source, and of these the ordinary paraffin lamp and shade is as good as any more elaborate and expensive. A prime rule should be to work with low powers, and never use a higher power than is absolutely necessary to obtain a distinct view of the object. There is a story of a would-be microscopist whose first effort was the attempt to examine a knob of loaf sugar under a one-inch objective, but who, finding this not satisfactory, tried the half-inch with no better result, then, procuring specially a quarter-inch, failed again completely, and sold his microscope for half its cost.

Finally, a few words as to mounting. By far the greater portion of objects which it may be desired to preserve can be mounted in the dry state without any prepartion whatever. Let us take butterfly scales and henbane seeds as examples:—Having breathed gently on a glass slide, lay the wing of the moth or butterfly on the damped surface, cover with paper, and press gently; remove the wing, and the scales will adhere to the slide. Place a thin glass cover these, and fasten down by the edges with strips of gummed paper. For the seeds, as they have an appreciable thickness, a cell must be made. Cut a piece of cardboard of the size and thickness required in the shape of an ordinary felt corn plaster, and gum it to a slide; fasten the seeds to the slide in the centre of the cell, also, with a tiny modicum of gum; now cover with thin glass and make secure. A strip of blackened paper fastened underneath the slide makes a dark cell at once. There are many objects, such as parts of insects—the head of a fly for example—which may be preserved in a cell of this kind for a month or two to give time for detailed examination, when, by immersion in water, what is useless may be rejected, and the slide and cover be ready for another object.

Two useful works for beginners are the shilling manuals—"Common objects of the Microscope," by the Rev. J. G. Wood; and "One thousand objects for the Microscope," by Mr. M. C. Cook. Arrived so far, the student may read up his Carpenter, Hogg, or Beale, and devote himself to other and more minute examinations.

Pharmacy.

GELATINE MEDICINES.

The employment of gelatine is likely to become popular as a method for the administration of certain medicines in definite doses. The taste is covered, and what is very important, the medicine may be preserved for an indefinite time in this form without deterioration. The gelatinised fluid is prepared according to exact formulæ, of which the following are examples:—Supposing that 300 squares are to be made, then six grammes of gelatine and 230-260 cubic centimetres of water will be sufficient. If acetate of morphia is intended to be used, it may be added to the amount of 4-5 grammes, together with thirty-six drops of glycerine. If calomel is wished, then 4·5 grammes should be rubbed into an emulsion with 1 6 grm. of gum arabic and a little water, and the emulsion gradually stirred into the solution of gelatine, to which 55 drops of glycerine have previously been added. Each square will contain about ¼ of a grain of the medicine. It is not advisable to make the quantity of the medicine in each square greater than one grain. The glycerine is added to impart toughness. The fluid is then poured on to a plate of glass or slate, which has previously been lightly covered with some fatty matter, and this surface has been divided into the required number of small squares by scratched lines. The gelatine is picked off in squares.

A NEW PROCESS FOR DETECTING BROMIDE IN IODIDE OF POTASSIUM.

It is a well-known fact that a saturated solution of any salt is capable of dissolving another salt, presuming that no characteristic precipitate is formed by this union. Thus iodide of potassium up to a certain point is soluble in a saturated solution of bromide—not so, however, if the former salt be contaminated with the latter; in that case the adulterant falls as a precipitate. The test is rendered somewhat delicate by the isomorphism of the two bodies, and their different degrees of solubility, so if the iodide be pure and is added beyond a certain point bromide is precipitated.

To 10 c.c. of the saturated bromide solution ten drops of distilled water are added, and afterwards one grain of the iodide ground to coarse powder; the latter is genuine, will dissolve, but if bromide be present in it the same will be recognised by precipitation.—Abstracted from an article by Dr. E. Van Melckebeke in the *American Journal of Pharmacy*.

SULPHO-VINATE OF SODA.

Recommended first by Dr. Rabatean, of Paris. Sulpho-vinate of soda has been studied and prepared by M. Limousin, pharmacien, of Paris. It is cooling and purgative, and is said to have special advantages over magnesia. Administered in sweetened and aërated water it is said to be very pleasant. The following is M. Limousin's perfected process for preparing the salt. The ingredients employed must be strictly pure:—A kilogram of pure sulphuric acid, sp. gr 1·715, and a kilogram of concentrated alcohol, about 96°, are introduced by means of two funnels (one for the alcohol and the other for the acid) into a third funnel arranged in a flask plunged into a freezing mixture or kept in a current of cold water, the flow of the two liquids into the flask being so regulated as to keep the alcohol in excess. The mixture is kept for four or five days at a temperature of 20° C. to 25° C., then diluted with five or six litres of distilled water, and saturated with about 1,500 grams of pure carbonate of baryta diluted with a sufficiency of distilled water. When the point of saturation is attained, the liquid is left to deposit the sulphate of baryta, and afterwards filtered. The solution of sulpho-vinate of baryta so obtained is saturated by 850 to 900 grams of pure carbonate of soda dissolved in four litres of distilled water. When no more precipitate is formed by the addition of the alkaline solution, and the liquid is neutral to test paper, the transformation of the sulpho-vinate of baryta into sulpho-vinate of soda is complete. The liquor, decanted and filtered, is evaporated in a water bath to about sp. gr. 1·33, and left to crystallize. The crystals, after draining, are dried in a stove. The salt so obtained is of great purity, and may be kept without alteration. With the quantities above indicated, about one kilogram of the product is obtained. If the salt be free from sulphate of soda and sulpho-vinate of baryta, chloride of barium and sulphuric acid will not give a precipitate in a solution in distilled water.

THE DOSE OF CHLORAL HYDRATE.

Mr. Thomas Chambers, of Bolton-row, May Fair, writes to the *British Medical Journal*, narrating the case of an old lady, for whom he prescribed ten grains of chloral hydrate, and who died in her sleep, whether in consequence or not could not be ascertained, as the family declined an inquest. He says he generally prescribes from fifteen to twenty grains; but he now thinks that, for aged persons, it would be best to commence with very much smaller doses.

VALUE OF QUININE.

It is refreshing in sceptical times like these to have evidence of the value of medicines. The value of quinine will be admitted by the most *laissez faire* practitioner, though different illustrations would be given by different physicians. Those who have practised in malarious districts at home or abroad would tell the most eloquent facts. Not the least interesting cases would be those of persons labouring unconsciously under some unsuspected or vague form of malarial poison, going about the world miserably until some shrewd physician guesses at the malarious character of their malaise, and tests his diagnosis by therapeutics. The relief of the various neuroses, including herpes zoster, would be adduced. The power possessed by quinine of lowering temperature, illustrated very lately in our columns by two cases of typhoid, would appear to some minds the most striking control over vital processes. More matter-of-fact people still would be impressed by the exchanges of quinine. Mr. MacCormac tells us, in his interesting account of his ambulance experience during the late war, that a colonel, the Marquis of Gallifet, asked him if he could give him some quinine, as he was suffering from an accession of African fever brought on by heavy rains after the collapse of Sedan. Mr. MacCormac gave the quinine, and the marquis begged him in return to accept his beautiful Arab horse. We have been informed that in the Mauritius the price of quinine at one time lately, during the prevalence of fever, reached £28 10s. per ounce.—*Lancet*.

COCOA-NUT MILK, A SUBSTITUTE FOR COD-LIVER-OIL.

A paragraph has got into some of the pharmaceutical journals, stating that the milk of the cocoa-nut is used medicinally as a substitute for cod-liver oil in India, with excellent results, and that it is also employed instead of cow's milk in tea and coffee. Being personally acquainted with India from the Himalayas to Ceylon, we can confidently contradict the latter statement, and we do not believe the first.

The liquid in the cocoa-nut has no resemblance to milk when met with in India, but is an insipid fluid, like sweetened water, perfectly clean and limpid. When the natives drink tea or coffee, which is not very frequently, they take no milk or sugar with it.

Homœopathy.

A HOMŒOPATHIC TRIUMPH.

THE trustees of the New York Homœopathic Hospital have been holding a grand fair in that city in order to collect funds for extension. The fair was a great success, the attainment of which was contributed to in no small degree by the fact of Mdlle. Nilsson holding one of the stalls. The fair *prima donna* soon sold out, for purchasers eagerly pressed forward to receive anything from her hands.

SKETCH OF HAHNEMANN.

We do not pretend, says the *New York Tribune*, to offer an opinion on the scientific value of a system of which we know little and understand less. But this we do not hesitate to declare: that if ever a medical man were wholly and sublimely above any just imputation or suspicion of quackery, this same Hahnemann was that man. A scholar so accomplished and so thorough, that at twenty he supported himself in the University of Leipsic by teaching Latin, Greek, and the modern languages, and by translating foreign medical essays into German; a student so ardent and so determined, that for years he allowed himself to sleep only every other night that he might spare no unnecessary moment from his beloved books; poor, obscure, and without influence, yet at twenty-two, intrusted with a hospital ward at Leopoldstadt, and recommended for preferment by the physician of the Emperor; at twenty-four, when examined for his degrees, presenting a remarkable and original thesis, and at thirty-five, having meanwhile found time for hard study of chemistry and mineralogy, established in a lucrative practice at Dresden, there is certainly nothing in the record of these severe years which looks like pretence or superficial qualities of mind.

Then came darker days. The young physician, popular, accomplished, admired, courted, with rapidly-growing scientific reputation and secure fortune within his grasp, was seized with doubts of the honesty and worth of the received system of therapeutics. He sought facts and laws, and believed that he found only guesses and theories. Once to doubt, with him, was once to be resolved. He resigned his fashionable practice, laid down all the honours he had hoped to win, gave up his pleasant home, and went back to Leipsic to support his family, if he could, by translating English and French medical authors, while working hard at chemistry and groping for scientific light. Friends fell away from him, his wife was bitterly angry with him, his children sickened and suffered in poverty, and still he only said, like Luther, "Here I stand, I can do no otherwise. For it is not safe for a man to go against his conscience."

At last, almost accidentally, certain circumstances suggested to him the law, "*Similia similibus curantur*," and he believed that he had found the groundwork of an exact scientific system. But the scrupulous honesty of the man forbade him to offer to the sick a mode of healing of whose certainty there might be doubt. He proceeded to try upon himself the effect of a great variety of drugs, breaking down an iron constitution, and incurring dangerous risks. Similar results following his experiments with mathematical certainty, he obtained leave to introduce his system in the insane asylum near Gotha, where complete success crowned it. Seven years after he had given up his regular practice he ventured to publish his new theory. It was received with disbelief, ridicule, or abuse. For fifteen years no misrepresentation was too gross, no travestry too ribald, no slander too wild to be current concerning him and his motives. In 1813 a malignant typhus, the dreadful legacy of the Allied Army of Occupation, broke out in Leipsic, where Hahnemann had, at last, found shelter and friends, and spread with such rapidity that every physician was obliged to treat a certain number of the sick. Of seventy-three to whom the despised pretender applied his system, but one, an old man, died. Guilty of this success, there was neither pardon nor toleration for the rash physician, who was driven for asylum to the Duchy of Analt, where, however, insult so pursued him that he seldom appeared in the streets. And it was only at the fading out of a long life, that honour, confidence, and kindness made him slow amends for the hard usage of many years.

It is in the light of this history that we say, therefore, that whether this system be tenable or worthless, the man, dying, bequeathed a great life to the world, and by his constant labours and painful self-sacrifice, vindicated his memory from all aspersion of charlatanry. It is no wonder to us that a school should have arisen which devoutedly believes in the theories of a man so tremendously in earnest. And it certainly does seem rather a hard case that that school should be *anathema maranatha* to the other and older school which calls itself "regular."

At present, not only is the homœopathic experimenter not permitted to use the colleges of the allœopathic experimenter, but he is not allowed, as a physician, to practise in the hospitals of the State of city, nor, as a student, to walk them. Among the sacred rights which the Republic guarantees us is the right of every man, we solemnly believe, to die under whatever system of healing he may prefer. And therefore we go in, heartily, for the success of the endeavours the homœopathic public is just now making to establish an hospital whose inmates may sweetly and smoothly enter the next world by means of dainty sugar plums should they elect them above the painful impulsion of bitter boluses.

ENGLISH SNAKE CHARMERS.

The serpent was once said to be more subtle than any of the beasts of the field, but he is not quite clever enough for Messrs. Thompson and Capper, homœopathic chemists, Liverpool. This firm recently imported some large rattlesnakes from the Southern States of America, in order to get some lachesis, which is running very short in homœopathic practice. It is important to extract the venom during the animal's life, and this is how they proceeded, as narrated by Mr. Thompson at a recent meeting of the Homœopathic Pharmaceutical Society:—

"The reptiles were in separate compartments of a large case, fitted with a double lid for extra security. A long staff, fitted with a thick india-rubber noose at one end, which could be loosened or tightened by the hand at pleasure, was inserted through the partially opened lid, and the opportunity quickly seized of slipping the loop over the snake's head, the loop being immediately drawn tight by means of the cord attached thereto. With a similar contrivance the tail was next fastened, and the snake being thus securely held, was lifted out of the box on to the floor of the room. A pickle bottle containing chloroform was then thrust over the snake's head, and carefully held in its place by keeping time to the animal's efforts to extricate itself. As the reptile became stupefied, the noose was gradually relaxed to enable the lungs to have full play, and when it appeared powerless, the snake was laid in a long narrow box made for the purpose, with an aperture at one end, out of which its head projected while the after operation was performed. Its jaws were then opened and fixed, and the poison-glands pressed with forceps, then with the gloved finger and thumb, while a small blown graduated phial was held to receive the drops as they came slowly out through the poison fangs. Twenty drops was the average quantity yielded from each snake. The venom is of a straw colour, thick and gummy in consistency, and decidedly acid in its reaction on litmus paper. It is readily soluble in glycerine or water, but is precipitated by strong alcohol, the precipitate being re-dissolved by the addition of a little water. Its toxicological properties were fully tried on a variety of animals. Half a drop produced death on a linnet within three minutes after being injected under the wing."

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We shall guarantee to circulate our next issue (July 15th) to 10,000 (ten thousand) chemists and druggists at home and abroad. Our register of names is unequalled for perfection and accuracy, and we respectfully invite advertisers to take advantage of this occasion. With that issue we are prepared to stitch up circulars. For terms, &c., please address the Publisher without delay.

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GENTLEMEN WHO ARE COMMISSIONED TO ENGAGE Chemists' Assistants for Foreign Countries are respectfully requested to avail themselves of the Photographic Album kept at the office of the "CHEMIST AND DRUGGIST" exclusively for such. Terms on application.

SITUATIONS AT HOME.

THE PROPRIETORS OF THE "CHEMIST AND DRUGGIST," anxious to make their Journal more than ever the medium of communication between Employers wanting Assistants, and Assistants wanting Situations, have decided henceforth to print that class of Advertisements on a separate sheet as well as in the body of the Journal, and this separate sheet will be forwarded post free to any address on the 15th of the month on receipt of a penny stamp. The Proprietors will be much obliged if Chemists' Assistants will make this announcement known as generally as possible, as it is in their interest that the plan is proposed.

WARREN'S "SWEET" ESSENCE OF RENNET.

From "THE LANCET," *May* 13*th*, 1871.

"This preparation differs from the ordinary liquid and so-called *essences* in its freedom from acid and salt, which after a time affect injuriously the coagulating power of the rennet. Tested with milk, we found it to answer admirably."

From "THE MEDICAL PRESS AND CIRCULAR," *July* 12*th*, 1871.

"RENNET IN GASTRITIS.—Having had occasion recently to order rennet whey in the case of a child recovering from gastritis, we took the opportunity of testing, side by side with other similar preparations, Warren's Sweet Essence of Rennet. The observation of its action on milk has satisfied us that it is, of the preparations with which we are acquainted, not only the pleasantest, but the most effective, agent for the coagulation of the caseine. It acts, even under unfavourable circumstances of temperature, rapidly and certainly—a quality not enjoyed by all other solutions of the sort, and seldom possessed by the rennet bag itself."

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WIDOWS AND THE PHARMACY ACT.

Did the promoters of the Pharmacy Act really contemplate the robbing of widows' houses, as well as the attainment of a certain professional dignity for themselves and the trade generally? We hardly think so; and yet it seems that a consequence not very unlike that may sometimes result from the application of the Act. More than a year ago we made inquiries on this point, and in March, 1871, we published the official reply of the Registrar, expressing his opinion in regard to the 16th section of the Pharmacy Act. That section renders it lawful for any executor, administrator, or trustee to continue to carry on the business of a chemist and druggist, provided a qualified assistant be employed. But it was stated, in effect, that a widow, as such, might not continue to be the proprietor of her late husband's business, nor would the employment of a qualified assistant free her from the necessity of herself qualifying or selling. It is highly important that all chemists and druggists, and their wives too, should exactly understand how the law stands on this matter. An executor, administrator, or trustee may continue the business as long as he or she chooses; but of course as soon as the estate is wound up, the executor, administrator, or trustee ceases to exist as such. To be forewarned is to be forearmed; and the chemist with a wife whom he would wish to leave in competence and not in want, will be quite justified in so drawing his will that the almost penal consequences of the Act will be evaded; that is to say, he must leave his wife an executor or trustee, or he must get some friend to hold one of those offices who will be willing to have it hanging round his neck for the rest of his days. That this state of affairs is most unsatisfactory is evident to everyone, and we hope it will not long remain in that position. A very slight alteration would remedy the grievance, and the interest of the Pharmaceutical Council only is necessary. Permission to a widow to continue a business, she employing a qualified assistant, would ensure the safety of the public quite as much as it is secured by the Act as it now stands, and no one who reads the remainder of our article will consider this plea for an amendment of the law uncalled for.

Here is a case which has actually occurred quite recently. We give it in the words of the narrator, Mr. W. F. Smith, of 280, Walworth-road. He writes thus:—

> "A widow was left sole executrix, and the property and business devised to her absolutely. She administered, took possession in her own undoubted right, and then her troubles began—'Her name was not on the register;' a 'brother in trade' took note of this, informed our excellent secretary, and he, bound hand and foot by Clause 16, sent her notice under pains and penalties that 'she must qualify or sell' within a given time. She was nearly fifty years of age, her children all daughters, and passing even the Minor was in her case impossible. I went with her and a friend to the Society, met with a kind official reception, and came away with the assurance that she had no right to carry on the business in her husband's name, while her own name had no legal status; she therefore sold for £800 that which had brought in a clear profit of £460 a year, thus losing at least £400 a year, and started life again by attempting to keep a school, which will be a long time before it keeps her. She is, however, well-fitted for her compulsory work; and if any of my brethren wish a child well cared for, I shall be happy to forward her name and address."

Mr. Smith brought the matter before the annual meeting of the Pharmaceutical Society, which was quite the proper place for the discussion of a subject vitally, or at least mortally, important to every member of the trade. But the probability of any such discussion was strangled by the Society's solicitor, who seemed hopelessly unable to understand what the grievance really was, the majority of the members present, too, being more intent on the prospect of their annual sport, and this did not seem a promising subject. Mr. Smith next wrote a lucid account of the case to the *Pharmaceutical Journal*, whose editor seemed just as incapable of perceiving that the complaint was against the law itself, and not against its administrators. This was the editorial comment attached to the statement of the case which we have reproduced above:—

> Mr. Smith appears to overlook the fact that the widow to whom he alludes was carrying on the business of chemist and druggist *on her own account*, and that she could not therefore claim the special exemptions provided in the Pharmacy Act, 1868.

As far as we can understand plain English, Mr. Smith does not appear to overlook that fact by any means. It is just that fact, "that she could not claim the special exemptions provided in the Pharmacy Act," that he writes about. And it is that fact that we venture to think is worthy the attention of every married chemist and druggist in Great Britain. If he should die, with or without a will, his affairs must either remain unsettled, or if wound up his widow must sell the business for any price she can make of it, or if she shall continue to hold it, she is breaking the law, and is only not interfered with because neither neighbour nor registrar happen to be brutal enough to decide to dispossess her.

We shall look with some degree of interest to the reports of the proceedings of the Pharmaceutical Council in reference to this subject. We are quite sure the Council would only act justly and wisely, if they would endeavour to remedy this very manifest imperfection in the Pharmacy Act.

In the seventeenth century a law was in force in England that all women of whatever age, rank, profession, or degree, whether virgins, wives, or widows, that should impose upon, seduce, and betray into matrimony any of his Majesty's male subjects by scents, paints, cosmetics, washes, artificial teeth, false hair, Spanish wool, iron stays, hoops, high-heeled shoes, or bolstered hips, shall incur the penalty of the law, and that the marriage shall stand null and void. It is said, Mr. Gladstone, to increase his popularity, is about to have this law revived!—*Norwich Argus.*

REPORTERS IN THE PHARMACEUTICAL COUNCIL.

We are not anxious to say much about the recent discussion in the Pharmaceutical Council as to the admission of other reporters to the meetings. It would seem as if those who oppose the popular wish on this subject are defending their last ditch, and we are altogether at a loss to discover any dignity in the course they have chosen to adopt. Not a single one of them now argues boldly against the admission of reporters at all, though it is only three years ago that that suggestion struck horror to many a pharmaceutical marrow. Nevertheless, we could understand the maintenance of such a position, though we thought the arguments mistaken. But to fight for the monopoly of reporting for their own journal seems to savour a little of the system of huckstering. What would be thought if our Parliament should resolve that their debates should be reported henceforth in the *London Gazette* only, and that they should be under the control of the Prime Minister and one or two Secretaries of State? The idea is almost too ridiculous even to mention, and yet it is almost exactly similar to the system now pursued on a small scale by the Pharmaceutical Parliament. Mr. Sandford conjures up a prospect of dismal contingencies to result from free reporting, every one of which vanishes when one remembers that there would always be several alternatives in the hands of the Council when any necessarily private business came on. They could request reporters to withdraw, they could form themselves into a general committee, or they could refer the matter to a select committee. But why should we argue? Mr. Sandford and his supporters know these facts well enough, and they might just as well imitate the candour of the President who remarked that "for himself he had no objection to publish every word that was spoken. The only objection he saw to the motion, was, that the word 'reporters' was used in the plural." Without venturing to inquire how it very well could be used in the singular, we may just remark that the system adopted now is one which cannot be permanent. The President, Vice-president, and Mr. Sandford are extremely clever and extremely honest gentlemen, and no one finds fault with the way they do the work. But many members of the Society do perceive the absurdity of allowing them or any other three councillors to "filter the reports," as Mr. Betty described the process, before it gets into print. Sometimes, said Mr. Haselden, "he had asked gentlemen, after the Council, whether they would like their remarks reported in full, and they had replied 'not exactly.'" Now we put it to our readers, Is this a creditable and business-like way of turning out reports? Surely after Mr. Haselden's confession, the present system must perish. Then, practically, the question remains, shall the *Pharmaceutical Journal* have the monopoly of reporting, or shall THE CHEMIST AND DRUGGIST be invited to send a reporter? Surely the question of the fourpences will not affect the decision, but we hardly expect an invitation this year. Nevertheless, Time is on our side, and we suppose we shall be asked to send a representative to those meetings some day. When the invitation comes, it will be time to decide how to deal with it, but it may add to the perplexities of the Committee appointed to consider the subject, to inform them that if we ever have a speech before us which we think ought to be reported to the trade, neither prayers, tears, nor bribes will conquer our stern resolution.

The Metropolitan Chemists' Defence Association is now dissolved. The members of the committee and a few other friends signalised the occasion by presenting an elegant drawing-room clock to the honorary secretary, Mr. E. B. Vizer.

REVIEWS

THE CHEMISTRY OF THE AIR.*

SUCH a work as Dr. Angus Smith has here presented to the scientific world is worthy of far more rigid analysis than we can hope to apply to it, notwithstanding our sincere desire to do justice to a labour, the value and difficulty of which we thoroughly appreciate. Dr. Smith has directed his researches to the atmosphere, and in this volume he records the results of many years of investigation, embracing some thousands of the most delicate experiments, which indicate an astonishing patience and ingenuity on the part of the experimenter; and he so classifies his results that his book will be for many years a broad basis for all who work for sanitary improvements, while it also presents many facts which must interest the biologist as well as the physician.

The author makes a slight apology for the method of his book, and we think not without reason. He writes with perfect perspicuity, and he evidently makes no difficulty about a few hundreds of experiments, more or less; and yet in this volume he seems to have grudged the labour of presenting his investigations in a simple chronological order. For our own part we have found it extremely difficult to master all of Dr. Smith's conclusions, and we believe the reason lies simply in the fact that he has not given us a simple consecutive view of all the steps of his investigation.

We are unable in a short space to follow the author in his detailed experiments, and we shall only try to give a general idea of the result he has arrived at. The first subject of inquiry is the relative proportions of oxygen and carbonic acid in the air. We have a most interesting essay discussing the average proportions of these gases in pure air, and this essay summarises the analyses of a number of chemists from Cavendish to the present day. There are slight variations, but wonderful correspondences between all these analyses, and even Cavendish, sixty years ago, with very imperfect apparatus, made his average of oxygen scarcely more than the tenth of one per cent. lower than the figure at which Dr. Smith estimates it now. According to the latter a favourable specimen of air might be thus composed:—

	Vol. per cent.
Oxygen	20·96
Nitrogen	79·00
Carbonic Acid	0·04

This is the standard, and the variations from it, and their causes and consequences compose the greater part of this book.

"Cavendish could not decide that the London air differed from that of the country," we are told; and in another place it is quoted from Dalton, "that chemical experiment could not distinguish the air of Manchester from the air on Helvellyn." Dr. Smith is now able to prove not only such broad differences as are manifested in cases like these, but he also detects an appreciable difference in the air of the fronts and in the air of the backs of houses in his own city. This shows the advance which chemistry has made in the direction of providing tests of exquisite sensitiveness.

We now wish to quote a passage from the book which is very remarkable in its force. The air from "tops of hills (Scotland) contained 20·98 of oxygen; London, open places, summer, 20·95; pit of theatre, 11. 30. p.m., 20·74; Court of Queen's Bench, February 2nd, 1866, 20·65." The proportions of carbonic acid are more striking; we have the following:—"In mines, largest amount found in Cornwall, 2·5; in theatres, worst parts, as much as ·785, while the hills in Scotland yielded only ·0332. Some of these variations are sufficiently important to arrest the attention of those who are not chemists, but a great part of the experiments indicate differences of a much more minute character, and respecting these the author thus writes:—

> "Some people will probably inquire why we should give so much attention to such minute quantities—between 20·980 and 20·999—thinking these small differences can in no way affect us. A little more or less oxygen might not affect us; but supposing its place occupied by hurtful matter, we must not look on the amount as too small. Subtracting 0·980 from 0·999, we have a difference of 190 in a million. In a gallon of water there are 70,000 grains: let us put into it an impurity at the rate of 190 in 1,000,000; it amounts to 13·3 grains in a gallon, or 0·19 grammes in a litre. This amount would be considered enormous if it consisted of putrefying matter, or any organic matter usually found in waters. But we drink only a comparatively small quantity of water, and the whole thirteen grains would not be swallowed in a day, whereas we take into our lungs from 1,000 to 2,000 gallons of air daily. The detection of impurities in the air is therefore of the utmost importance, and it is only by the finest methods that they can be ascertained in small quantities of air, even when present in such quantity as to prove deleterious to health.
>
> We must remember also that the blood receives the air and such impurities as are not filtered out in its passage, whilst it is the stomach which receives the water we drink, and that organ has for many substances a power of disinfection and destruction which blood does not possess. If by inhalation we took up at the rate of thirteen grains of unwholesome matter per day—half a grain per hour—we need not be surprised if it hurt us. Such an amount is an enormous dose of some poisons, and yet this is not above one two-thousandth part of a grain at every inhalation. It is marvellous what small amounts may affect us, even when, by repeated action, they do not cumulate as certain poisons do. The carbonic acid numbers might have been used instead of the oxygen numbers, with the same result. On the actual effect of carbonic acid there are separate experiments; but its amount as given is an important index to the state of the air. The organic matter is the dangerous agent, but not all organic matter; some probably may be wholesome, some neutral, and some putrid, but the most dangerous seems to be the organised, existing as minute germs, and perhaps as full-grown plants or animals also.

A great many analyses of Manchester air are given, but a quotation showing the general condition of London, and the haunts of some of its inhabitants, will be more generally interesting. The percentage of carbonic acid in the undermentioned places was as follows:—

Cheapside, Post Office end	·0352
Outside the Exchange	·0398
Newgate-street	·0413
Oxford-street, above Regent's-circus	·0344
Lower Thames-street	·0428
Small-alley, Smithfield	·0337
Small-court, Smithfield	·0395
Small-court, Upper Marsh, Lambeth	·03[illegible]2
New Cut, Lower Marsh, Lambeth	·0413
Top of the Monument	·0398
Chancery Court, closed doors, 7 feet from ground, March 3.. ..	·193
Same, 3 feet from ground	·203
Chancery Court, door wide open, 4 ft. from ground, 11.40 A.M., March 5	·0507
Same, 12.40 P.M., 5 feet from ground	·045
Strand Theatre, gallery, 10 P.M.	·101
Surrey Theatre, boxes, March 7, 10.3 P.M.	·111
Surrey Theatre, boxes, March 7, 12 P.M...	·218
Olympic, 11.30 p.m.	·0817
Same, 11·55 P.M.	·1014
Victoria Theatre, boxes, March 24, 10 P.M.	·126
Haymarket Theatre, dress circle, March 18, 11.30 P.M.	·0757
Queen's Ward, St. Thomas's Hospital, 3.25 P.M.	·040
Edward's Ward, St. Thomas's Hospital, 3.30 P.M.	·052
Victoria Theatre, boxes, April 4	·076
Effingham, 10.30 P.M., April 9, Whitechapel	·126
Pavilion, 10.11 P.M., April 9, Whitechapel	·152
City of London Theatre, pit, 11.15 P.M.. April 16	·252
Standard Theatre, pit, 11 P.M., April 16..	·320

The air of mines has been very abundantly tested, and it appears by Dr. Smith's tables to be just about as bad on the average as the Court of Queen's Bench, London. The author remarks, "I certainly am anxious to see legislation in favour of miners, but this is a circumstance rather adverse to my hopes."

In order to make certain experiments, Dr. Smith had a lead chamber constructed, and by the opportunity thus afforded, he was able to make many observations respecting the power of certan atmospheres to support life or light, but we must pass over these at present, and come to the section on rain. This is mainly a set of tables showing the composition of rain collected in various parts of the kingdom. The conclusion arrived at is that rain serves the double purpose of washing the air from impurities, and of supplying a small quantity of manure to plants. The rain of some manufacturing places is found to contain traces of the produce of the district.

In the latter part of his work Dr. Angus Smith discusses many subjects which seem to have suggested, or to have been suggested by, his investigations. In matters of hygiene he professes to write only as a chemist, and not with the authority of a physician; but the facts he has accumulated are extremely valuable. The vague idea now in existence, consequent on such discoveries as those of M. Pasteur and Dr. Tyndall, are hopeful in this respect: that they may lead to a definite knowledge of the exact kind of germ which conveys a particular form of infectious disease. Knowing our enemy, we shall be in a position to do battle with it, but Dr. Smith is not inclined to condemn the whole array of germs because a few of them may be conspirators against our life or health. On the face of it, there is no more

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[*] "Air and Rain:" the Beginnings of a Chemical Climatology. By ROBERT ANGUS SMITH, PH.D., F.R.S., etc. London: Longmans.

apparent reason why a "germ" should not be good wholesome food as well as a lobster, and Dr. Smith speculates that the breathing of some of these minute organisms may be necessary for the promotion of vital action, and action of the brain. It is certain that great work has yet to be done before we can make good use of our modern discoveries with regard to the dust of the air; but it is almost equally certain that, in consequence of these, we shall progress towards some better acquaintance with the nature of disease. Our author shows that most important effects are due to the organic matter and organisms in the air, much even of such effects as are often attributed to carbonic acid. At a soda-water manufactory, he has found the air fresh and agreeable, though the percentage of carbonic acid ranged from ·1 to ·2, and he has found a proportion of even 4 per cent., but slightly perceptible to the senses, if unaccompanied with organic matter, although there was no question about the physiological effects of so unusual a quantity.

We should fail to convey our judgment of this work if we did not, in conclusion, confess it to be a work which reviewers must be content to speak of with sincere respect. It would have been a great contribution to our scientific literature, even if it did not possess the literary merit of a graceful and modest style, combined with the evidence that we are being instructed by one who has devoted great ability and many years to his researches. Our outline of the book is extremely vague and unsatisfactory to ourselves, but we hope to have clearly expressed our impression of its importance as an aid to those who look for great sanitary reforms.

SEA-SICKNESS.*

NOTWITHSTANDING the halo of comedy which invariably surrounds the subject now in hand, the proper comprehension of sea-sickness, its cause and its prevention, are subjects most worthy of medical attention, but to which very little thorough investigation has been applied. To Englishmen especially a rational explanation of the phenomena of sea-sickness, and a reliable method of alleviating its misery, would be particularly interesting. We do not all wish to be imprisoned through our whole life in our sea-girt isle, and we all love the sea, theoretically, as our old Norsk ancestors loved it practically. But fully seventy per cent. of us (the pamphlet before us states this as the proportion—we should have expected it to have been larger) are doomed to pass through the hopeless misery of sea-sickness, before we are able to enjoy in any degree the oceanic delights which sound so well in poetry. To most of us a ship is not only "a prison with a chance of drowning," but also an hospital in which we are the sufferers, and where we are surrounded not by sympathetic nurses and doctors, but by grinning savages who find amusement in our agony. It may be that this penalty must be ever paid; it is a toll perhaps which Jupiter has granted to Neptune. But, at the same time, it may be that this is not the case. It is all very well to yield to the inevitable, but let us be quite certain that it is the inevitable to which we bow. It may at least be said that as yet there has been no thorough attempt on the part of medical science to combat the attack, and therefore we are not yet justified in leaving the enemy in quiet possession of the field.

The first step towards a successful treatment of sea-sickness is of course to ascertain its cause. In this the profession is still, to use an appropriate expression, "all at sea." But the pamphlet before us, by a German doctor, claims to have settled this matter. The writer of it has had some considerable personal experience, and we do not hesitate to say that his theory is by far the most rational and probable with which we are acquainted. It outrages no physiological facts, and it coincides perfectly with the emotions which the amateur seaman so well remembers.

The ideas at present held may be briefly summed up. We lately reprinted from the *British Medical Journal* a paper by Sir James Alderson, in which he attributed sea-sickness to a pressure of blood on the brain, occasioned he stated by the sudden drop of the vessel. He likensd the action to the fall of a tube of mercury, the mercury not falling so quickly as the tube, the consequence is that it bumps the top. It is singular that many physicians hold just the opposite view to this; namely, that the sickness is caused by the flow of blood *from* the brain, and they therefore recommend that the sufferer should lie with his head low, so as to bring the blood back again.

Dr. Copland says the primary effect of the motion of the vessel is to produce depression of the semilunar and allied ganglia, which results in vomiting. Dr. Chambers thinks that the principal cause of the sickness is the relaxation of the œsophageal sphincter by the vibration.

Dr. Carpenter, who works his psychological theories rather unmercifully, attributes the sickness to the mental and bodily sensations which the new conditions occasion to the brain. He especially instances the sensation of want of support. The sight of the sea, and the curving lines of the water induce a giddiness which results in vomiting.

The last theory allows for the fact that the attack of sea-sickness lasts only a short period, after which the voyager gets quite at ease. This fact is quite sufficient of itself to demolish Sir James Alderson's idea, for we can scarcely imagine a human brain getting accustomed to the continually repeated bumpings of blood on the brain. But as we have already intimated we can hardly help thinking that Dr. Colomanus de Rochlitz has hit on the theory which fits into all the circumstances most exactly. In a few words his idea is this:—Recognising the fact that a person unaccustomed to the sea finds that "want of support," to which Dr. Carpenter refers, our author explains the after proceedings in a more tangible manner. His idea is, that finding his support going, and ignorant as to which muscles to employ to save himself, the traveller exerts muscular power ignorantly. Among others, he contracts the ring-muscles of the abdomen, and thereby causes a pressure on the bowels, which, by frequent repetition, soon induces nausea and vomiting. By the time he "gets his sea-legs," or in other words, knows better what muscles to bring into play, he is no longer in danger of sea-sickness. This we gather to be Dr. Rochlitz's theory, though in his pamphlet he states it much more elaborately than we have attempted to do. He gives one well-known fact which singularly corroborates his view. It is, that babies in arms never get sea-sick. They may get sick from indigestion, but are not affected by the motion of the vessel. Young children, however, who can walk are as liable to sea-sickness as other persons. This is a very remarkable support of the doctor's theory, and he gives other arguments and experiences for which we must refer to his pamphlet. The author makes no pretence to offer a system of cure for sea-sickness. The beneficial effects resulting from chloroform, chloral hydrate, ice, etc., he traces to the fact that these deaden the nerves which excite the muscles. His general advice is sound and practical however, and is calculated to reduce the horrors of that living murder which he describes in the following passage:—

> "The first act of vomition increases as we know the nausea, which tends to increase in its turn the energy of the contractions of the abdominal muscles. The stomach is soon emptied, and bile appears next, followed by the acrid sour gastric mucus which makes the nausea reach its climax. The reflected irritation begins now to spread from the abdominal to other muscles; first, to those of the chest, and a spasmodic cough will set in, or a sensation of suffocation on account of spasms of the respiratory muscles. Spasms in other muscles of the trunk, the neck, and the head will soon follow, till at last there is scarcely any muscle left in the body which would not contract. No wonder if the sufferer, who experiences this torture the first time in his life, thinks to be dying! At last the scene changes; the muscles have contracted so often and so powerfully, that they have lost the power of doing it again. It is the state so characteristically called "exhaustion." The strongest man lies prostrate and helpless as a child; he can scarcely wipe off the perspiration from his face, his sight is dim, his hearing dull, his head aching, the carotid arteries are throbbing wildly under his ears, his breathing is short and rapid, the bitter sour taste of his mouth makes him shake sometimes from head to foot. Later still, pains arise in the overstrained muscles; you feel like bruised all over, and every muscular action increases this pain."

We have only to add that the pamphlet is written in English, but that it has evidently not been submitted to an Englishman's revision, which it should have been.

MR. WM. MATHER, of Manchester and London, will open his new warehouse in Manchester on July 1st, where he will consolidate the businesses hitherto carried on at Hanging-ditch and Chester-road in that city. His new es blishment is a noble building, situated at 84, Corporat street, and its internal arrangements are very complet

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* An Essay on "Sea-Sickness," explaining its real nature, and giving practical advice for its prevention and treatment. By COLOMANUS DE ROCHLITZ, M.D. and Ch.D. (Vienna). London: Longmans.

Literary Notes.

We have two neat little volumes from Messrs. Longmans on legal subjects, both by G. Manley Wetherfield, solicitor. One is the second edition of "Notes on Liquidations and Compositions under the Bankruptcy Act, 1869." It is due to the author to state that his works are professedly written for the service of lawyers, and they may be of some occult use to them. To the trader who simply wants plain directions as to the necessary steps to be taken in a liquidation or composition, we cannot recommend Mr. Wetherfield's manual. Nineteen-twentieths of the book are cuttings from the Bankruptcy Act, so arranged, it is true, as to present only the sections which refer to liquidations and compositions, but in this detached form being less comprehensible than in the Act itself. The author seems to assume that the provisions of the law, as far as bankruptcy itself goes, are familiar to his readers, and in endeavouring to present the sections of the Act in what may be to him a clear style, he has produced an arrangement which may be depended upon to bewilder a layman, far more than a perusal of the original Act would have done. The most useful part of this work is that it presents comments on various sections showing the interpretations which have been placed on them in actual cases. And if the author had taken the trouble to present the whole proceedings in a narrative form, introducing the precedents as he went along, we should have had much more pleasure in commending his work.

The Practice and Procedure of the Mayor's Court, London, by the same author is a more usefully compiled book, but as it affects the citizens of London mainly, its field is more limited. Readers are probably aware that in the City of London, actions for debt may be taken in the Lord Mayor's Court, provided the debt comes within that jurisdiction, and it can generally be made to do so. The procedure in this court is very simple and prompt. Plaintiff's attorney states the claim, and a copy of the same is served on the defendant with a summons, which advises him that unless he appears within eight days, judgment against him will go by default. At the expiration of the time the plaintiff has to sign his name, and execution of the judgment is at once commenced. There are many formalities, but the foregoing is the principle of the procedure. Mr. Wetherfield's work is in this case, too, of little use to any but attorneys, as it is overlaid with technical terms; besides which, it is necessary, we believe, in this court, to proceed by attorney, so that the knowledge of its ways by any one else could be of but little practical service.

A Manual of Chemical Physiology, by J. L. W. Thudichum, M.D. (Longmans), is a work which many of our readers will value. Chemical Physiology is very modern, but it is one of the most promising developments of chemical science. Nevertheless, its progress has been so rapid that it is easy enough to have fallen behind the front rank. We leave others to dilate on the charms of the study, while we content ourselves with pointing to its obvious advantage to the intelligent chemist and druggist. Scarcely a day passes that the opportunity does not occur to display his knowledge, and occasionally its possession may be of solid value. Dr. Thudichum, in the first part of his book, gives a rapid description of the characters and functions of the various secretions, tissues, and organs of the human frame, and afterwards explains the analytical processes whereby the chemist may aid the physician. It is to be remarked that the analytical guide is written expressly to enable students to familiarise themselves with the necessary processes connected with animal chemistry, and is not, therefore, especially adapted as a hand-book for the chemist to refer to in questions which may arise. Bearing in mind this reservation, readers will be able to judge of the usefulness of the book.

We have received from Messrs. S. W. Partridge and Co. several specimens of their penny monthlies, the *Family Friend* and the *Children's Friend*. It is against our rule to notice publications so entirely out of our own line, but the excellence of the pictures in these publications wrings from us a word of praise. Our more pretentious illustrated papers might take a lesson from these.

Messrs. Macmillan will shortly publish a series of Historical Primers, similar to their Scientific Primers which we recently noticed. They are to be under the editorship of Mr. E. A. Freeman, who will write the introductory volume.

We understand that the first volume of Messrs. Henry S. King and Co.'s International Scientific Series will not be published until September next.

Dr. Malet, the librarian of Trinity College, has issued a circular to certain publishers, in the course of which he writes "Will you also kindly inform me whether you will consent, without further notice, to send us all publications to which the Library of the British Museum is entitled, or if it will be necessary for me to specify each of them by name?" Either Dr. Malet intends to rob the Museum, says the *Athenæum*, or the rules of English grammar are ignored at Trinity College.

In the art of discursive writing Mr. George Augustus Sala is generally considered supreme; and Mr. Bancroft Davis has achieved a world-wide fame for his keenness in tracing the golden thread on which causes and consequences are strung. But a new aspirant to this kind of fame has boldly shouldered his way into the front rank, and behold! it is none other than our weekly brother, the *Pharmaceutical Journal*. What say literary pharmacists to this paragraph as an early effort which appears in our contemporary, under the title of "Science in England:"—

> Of the hundreds of thousands who overran the downs at Epsom last week, or the millions for whom the exciting events of the Derby Day have an all-absorbing interest, probably not half-a-dozen were even aware, or would have cared a button if they had been told. of the different kind of festival which was being held in the metropolis on Thursday evening, when the Faraday lecture was delivered in the theatre of the Royal Institution.

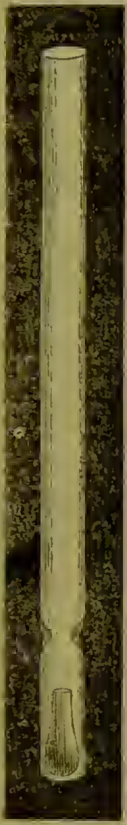
The Derby, we are informed, is an important horse-race, held annually in the neighbourhood of London; and the Faraday lecture is a triennial event in memory of the great chemist whose name it bears. To ordinary minds the connection between the two may not be very obvious; but what can be more beautifully instructive than to consider the coincidence indicated by this writer, that while the first event took place on a certain Wednesday, the latter occurred on the evening of the following day (Thursday). The analogy might be still further strengthened by commenting on the extraordinary fact that the names of the chief performers on both occasions commenced with the same letter.

DARLOW'S SKEUASMA.

Within the past month we have examined many of the magnetic appliances which, under the above general title, Mr. Darlow submits to the trade and to the public. The *Skeuasma* is a patent compound of iron and india-rubber, which is most unquestionably magnetic, and which seems to retain its magnetic power for years. This compound is cut into strips, and these again are arranged in series and covered with woollen or other material so as to form belts, chest protectors, throat protectors, wristlets, necklets, anklets, knee caps, and many other arrangements. The inventor claims that by wearing one of these appliances near the affected part a continuous flow of electricity is applied through the blood, and he further claims this to be the most powerful restoring agent at our service.

Of course, it is not for us either to support or dispute his statements in this respect. It is simply our duty to say that his articles are well-made in every respect, and that they are undoubtedly magnetic. The mass of evidence as to the power of electricity as a remedial agent is no doubt very great, and we are glad to notice that some of our most intelligent physicians are turning their attention to the subject. But we are not quite prepared to accept Mr.

Darlow's dogma, that magnetic electricity acts on the blood, while galvanic electricity—such as is generated by Pulvermacher's chain bands, etc.,—acts on the nerves only. We are convinced that from both, electricity is developed, and that it is one and the same fluid in each case. Mr. Darlow's series of testimonials is a very effective list, and while we leave to the medical profession the consideration of the exact action of electricity thus applied, we are able to commend these articles to our readers as likely to be serviceable as well as saleable.

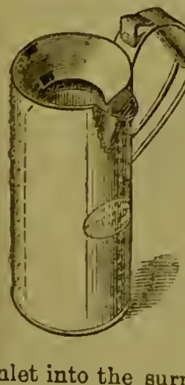


KAY'S FEEDING BOTTLE TUBE.

Our drawing represents a valuable improvement for the glass tube of the feeding-bottle which Messrs. Kay Brothers, of Stockport, introduce. It will be seen that near the bottom of the tube the glass is indented, and encloses a loose bulb of glass which serves as a valve. This in no degree interferes with the suction of fluid into the tube, but the instant the child ceases to suck, the bulb falls and prevents the egress of the liquid. The main advantage is that at each renewal of the feeding, the effort of first filling the tube, which is sometimes excessive for weakly infants, is obviated.

NEW PARAFFINE MEASURES.

A little invention of singular simplicity and usefulness has been brought before us by the wholesale agent, Mr. Wm. Mather. It precludes every chance of waste, mess, or incorrect measure in dealing out paraffine oil, by an ingenious arrangement. The measures are made of block tin, and each one consists of two cylinders, one within the other, a hollow space intervening. The top of the inner cylinder is lower than the outer top, and a sloping shelf covers the hollow space between, with the exception of an inlet opposite the pouring lip. The exact measure of liquid required is obtained when the lower top is reached, and any further flow of course runs through the inlet into the surrounding space. In pouring out through the lip none of this surplus comes out, but it is readily put back by reversing the measure. The same construction will probably be applied to measures for other purposes, such as vinegar, spirit, etc., and it will be very useful.



RAYSON'S COPYING INKS.

Samples of excellent copying inks are before us made by Mr. Rayson, of Birmingham. They are evidently based on aniline, but they possess this important quality—namely, that unlike most copying inks they are devoid of that gloss which nothing will dry, and which is smeared all over the letter when it is folded. The ink is therefore as useful for book-keeping as for letter-writing purposes, and in all other respects it will amply satisfy the most fastidious scribe. The ink is supplied in two colours—red and violet—and Mr. Rayson is introducing it by supplying small cases to retailers.

"INTERMITTENT" SODA-WATER BOTTLE.

An invention of much interest to aërated water manufacturers is introduced by Mr. S. Barnett, of Hoxton. The object is to offer the advantages of the syphon in a very much simpler form than heretofore. We have, therefore, an ordinary soda-water bottle on which a metal cap is screwed, and this being provided with a valve, short draughts may be poured from the bottle, as is shown in the drawing; or if the whole is wanted, the cap may be unscrewed, certainly as readily as the average of corks are drawn. The absence of corks and wire is an advantage both to the consumer and to the manufacturer, especially to the latter, for these bottles are filled with the minimum of labour. A child could fill these bottles, as it is only necessary to fit a little nose-piece to the machine, and apply to it the outlet of the cap (which is already screwed on the bottle) grasping the bottle with the left hand, and then turning the bottling cock with the right hand. The bottle has to be removed for an instant half-way through the operation, to allow the atmospheric air to escape; but the whole process of filling is accomplished with a great saving of time and labour. One cap will fit any bottle, and the whole complete, bottle and cap, is supplied at the rate of 6d. each.

Wills and Bequests.—The will of Frederick Samuel Cleaver, soap manufacturer and wholesale perfumer, 32 and 33, Red Lion-street, Holborn, was proved in the London Court under £60,000 personalty, by his sons, Frederick John Cleaver and William Augustus Cleaver, together with Wilson Aylesbury Stuckey, solicitor, Brighton, the executors and trustees. He appoints his wife guardian of his children. The will is dated 1865, and a codicil in 1868, and the testator died January 17th last. By the codicil the testator states that since making his will he has established his son Alfred in partnership with George Oliver, of Baldock, as brewers. The testator considers the goodwill of his business to be worth £10,000, and he delivers possession to his three sons, Frederick, William, and Henry, to hold the same jointly as partners, paying to his wife a rent of £370 per annum. He has left legacies to near relatives, and has made a liberal provision for his daughter Jessy Frinnely, and her children, and for his daughter Edith, and has left specific bequests to his sons. He leaves to his wife a life interest in the residue, which, after her decease, he directs to be divided into several equal parts amongst his five sons and two daughters.

Dentistry.

DEATH FROM THE INHALATION OF NITROUS OXIDE GAS.

WE mentioned in our last that a death had occurred from the administration of nitrous oxide gas in New York, and as we believe this is the only case of the kind on record, the few particulars which we are able to add may be of interest.

On Wednesday, March 20th, Mrs. Ann O'Shaughnessy visited the office of a dentist named Newbrough, No. 128, West 34th Street, New York city, for the purpose of having some teeth extracted, she having suffered considerably for some time previously from toothache. Although desirous of taking the gas, she yet expressed a great dread of it, and it was with considerable difficulty that she was persuaded to submit. One bagful containing about four gallons was administered, but not without great trouble from the struggles and resistance of the patient, who appeared to labour under severe nervous irritability. This not being sufficient to produce anæsthesia, a second bagful was given, and after a few inhalations the dentist proceeded to extract the teeth. About four were removed, when the patient's head was observed to fall over on her left shoulder, and she was discovered to be insensible. Efforts were made to revive her, but in vain. It was found that she had ceased to breathe, and that no pulsation of the heart could be discerned. A physician was hastily summoned, and the galvanic battery and other means and appliances used, but without success. The woman was dead. The remains were removed to the late residence of the deceased, and an autopsy made, which revealed a slight congestion of the lungs.

An inquest was held before Coroner Herman, and a jury composed of prominent medical men. Several physicians who were present at the *post-mortem* examination gave as their opinion that death was caused by nervous shock; there was slight congestion of the lungs. Evidence was given respecting the apparatus used by Dr. Newbrough, which was a bag containing about four gallons, with a mouthpiece, from which the patient directly inhaled the gas; thus the expired breath entered the bag again. The verdict was to the effect that the deceased came to her death by asphyxia induced by the inhalation of gas administered. The jury further agreed in the opinion that any other than the most careful method of preparation of nitrous oxide gas as to temperature for generation, and appropriate washing bottles, is to be regarded as a careless method of manufacture. In this particular they regarded the apparatus used by Dr. Newbrough as imperfect. The administration of nitrous oxide gas is reckless where each administration is an experiment upon the patient, which it must be when there is not a positive certainty as to the chemical purity of the gas, and ignorance in the administrator of the physical condition of the patient and the physiological effect manifested by anæsthesia.

Furthermore, they regarded it as necessary for safety that an administrator of nitrous oxide gas should have a knowledge of the application of restorative agents adapted to alarming conditions in anæsthesia, and be always supplied with such agents.

ARECA NUT DENTIFRICE.

A dentist in the *British Journal of Dental Science* (June) mentions two singular cases in which large accumulations of tartar on the teeth seemed directly traceable to the use of areca nut tooth paste.

CHEMICAL SOCIETY.

PROCEEDINGS of the Chemical Society, Thursday, 16th of May, 1872, DR. DEBUS, F.R.S., Vice-President in the chair.

The first paper read at this meeting was one "On the Influence of Pressure upon Fermentation, Part I.," by Mr. H. T. Brown, the results of his experiments being that under diminished pressure the amount of gas unabsorbed by potash is greatly increased, and that it contains a proportionally large amount of hydrogen. Acetic acid and aldehyde are also formed under these circumstances, so that it would seem that water is decomposed during the alcoholic fermentation, especially when it takes place under diminished pressure. Papers "On the Electrolysis of Sugar Solutions," by Mr. H. T. Brown; "On the Determination of the Solubilities and Specific Gravities of certain Salts of Sodium and Potassium," by Messrs. D. Page and A. D. Keightley, and "An Examination of the recent attack on the Atomic Theory," by Mr. Atkinson, were then read. The latter referred to Dr. Wright's paper on the Atomic Theory recently read before the Society, and published in the April part of the *Philosophical Magazine*. An animated discussion on the Atomic Theory ensued, in which Dr. Wright took part. Mr. C. O'Sullivan then read his elaborate memoir "On the Transformation Products of Starch," and the meeting finally adjourned until Thursday, 6th June.

Professor Cannizzaro, of Palermo, delivered the Faraday lecture "Sur les Limites et sur la Forme de l'Enseignement Théorique de la Chimie dans les Universités," at the Royal Institution, on the 30th inst., at 8 o'clock.

Thursday, 6th June, 1872.

In the absence of the President, the chair was taken by Dr. GILBERT, F.R.S., Vice-President. When the usual business of the Society had been transacted, sixteen communications were read to the Fellows present, the titles being "On a remarkable Salt deposited from the Mother Liquors obtained in the Manufacture of Soda," by Prof. E. T. Thorpe; "On the Composition of Ceylon Jargons," by M. H. Cochran; "On a Double Sulphide of Gold and Silver," by M. M. Pattison Muir; "On the Solvent Action of various Saline Solutions upon Lead," by the same author; "On the Magnetic Sand of Mount Etna," by J. B. Hannay; "New Tests for some Organic Fluids," by J. A. Wanklyn; "Dendritic Spots on Paper," by A. Liversedge; "On Climoline and Leucoline," by C. Greville Williams, F.R.S. A letter from Mr. Dewar, of Edinburgh, was then read by the Secretary "On some derivatives of Climoline." Dr. C. R. A. Wright read a paper on the "Action of Phosphoric Acid on Morphine," and Mr. W. H. Perkin, F.R.S., "A Note on the Secondary Colouring Matter produced in the Preparation of Alizarine from Anthracine;" "On the Effects of Temperature on the Absorption of Gases by Charcoal," by J. Hunter, M.A. Dr. Armstrong then brought forward a series of "Communications from the Laboratory of the London Institution—No. 5. On the Nitration Products of the Dibromo-phenolsulphonic Acids. No. 6. On Bromophenolsulphonic Acid. No. 7. On the Formation of Substituted Nitro-phenolsulphonic Acids;" and, finally, the Secretary read a letter which had been received from M. E. Maumené, of Paris.

The meeting then adjourned until Thursday, 20th June, when Mr. H. Deacon will deliver a lecture "On Deacon's Method of obtaining Chlorine, as Illustrating some Principles of Chemical Dynamics."

TRANSACTIONS OF THE PHARMACEUTICAL SOCIETY.

MEETING OF THE COUNCIL.

June 5th, 1872.

PRESENT—Messrs. Atherton, Baynes, Betty, Bottle, Brown, Frazer, Hampson, Haselden, Hills, Owen, Radley, Stanford, Savage, Schacht, Shaw, Stoddart, Sutton, Urwick, and Williams.

ELECTION OF OFFICERS.

The election of President for the ensuing year was then proceeded with by ballot, the result being that Mr. A. F. Haselden was re-elected unanimously. Mr Wm. Scott Brown, of Manchester, was elected Vice-President. Mr. Thos. Hyde Hills was unanimously re-elected Treasurer. Elias Bremridge was re-appointed Secretary and Registrar, and Richard Bremridge, Assistant-Secretary and Deputy-Registrar.

SESSIONAL ADDRESS IN OCTOBER.

Mr. Stoddard, of Bristol, being requested, consented to deliver the inaugural sessional address in October.

REPORTING PROCEEDINGS.

Mr. BETTY then rose to move the resolution of which he had given notice:—

> "That such reporters as the Council may decide to invite be allowed the opportunity of reporting the proceedings of the Council."

He said about three years ago the first motion for publishing the proceedings was given by Mr. Brady, of Newcastle, but at that time the idea seemed so utterly impracticable that it was not acted upon in any way. Last year, however, on his own motion for the admission of reporters, the stronghold of secretiveness fell down like the walls of Jericho at the trumpet blast. The gentlemen who had been previously contented to sit at the Council Board and conceal their opinions as far as their constituents were concerned, for that was what it amounted to then, so far conceded the point that it was decided that the proceedings should be published, but only in a certain manner. Being able no longer to contest the principle, they fell back on a way of defeating it to some extent, which consisted in filtering the reports so finely through the Publication Committee as to make some people, at all events, suppose—and they ought to avoid all suspicion of the sort—that they filtered the very essence out of the proceedings. Now, what was the nature of the resolution proposed at that time? It was that the proceedings should be submitted to a committee, consisting of the President, Vice-President, and one other member of the Council. He contended that this arrangement was undignified in every way, and not conducive to the best interests of the Society. He also believed that such a mode of proceeding encouraged the diffusiveness which occupied a great deal of time, and detracted from the efficiency of their labours. If gentlemen who spoke at the Council were persuaded that they were speaking *coram populo*, and that what they said here would be attributed to them outside, they would not be as often led away from the business in hand, and the work would be much better done. In addition to this, he took it to be an impossibility that anyone who took an active part in a debate could be a proper person to judge of the feelings, sentiments, and impressions of those who had been opposed to him. It was a psychological impossibility for the President, for instance, to fairly appreciate those arguments which did not commend themselves to his own mind, and therefore it could not be expected that he would fully represent the spirit of any such remarks. In order that the matter should be decided upon principle and not on mere matters of detail, he would propose that the matters to be reported should be only of a public character; and, moreover, in order that the manner of carrying that out should be such as was most in the interests of the society, he would move that a committee be appointed to report to the Council as to the best mode of carrying out the principle he desired to affirm.

Mr. Brown suggested that the resolution should be modified, and stand thus:—

> "That it is desirable that such reporter, or reporters, as the Council may desire to invite, be allowed the opportunity of reporting the proceedings."

Mr. Betty said perhaps that would be the more convenient way of doing it, and he would accept the suggestion.

Mr. Williams said he could go with Mr. Betty this length, that the reports should be published more fully than they had been; but did Mr. Betty wish to have other reporters admitted? and if so, how many, and how would he have any control over such other reports?

Mr. Betty said the Council would invite such reporters as they thought fit.

Mr. Hampson said he would second the resolution with great pleasure. For a considerable time he had felt that the proceedings of the Council were not reported satisfactorily either to themselves or to the members at large. Opinions were expressed at the Board of really vital importance, affecting the trade at large; and he thought the trade had a right to know what members representing them said upon the subjects under discussion. However anxious the two or three individuals might be who, as Mr. Betty termed it, had to filter the report, to do so fairly it was utterly impossible for them if they took any interest in the question under discussion, to give a fair and honest report. He did not think there was a gentleman present who really objected to the principle involved, although it was a new thing, and many new things were unpleasant, still, under the Pharmacy Act, they now had to make regulations as to matters which affected the whole trade, and they were bound to give the members at large the full benefit of their deliberations.

Mr. Sandford said he was one who certainly was of the contrary opinion on this point. Mr. Betty had talked a great deal about filtering the reports; but he could tell him there had been no filtering of an objectionable kind, and if Mr. Betty had read through the shorthand-writer's notes from the beginning of the year to the end, he was quite certain he would have filtered them as extensively as had been done. He (Mr. Sandford) had had a great deal to do with this matter, and he felt that the reporting had been done honestly, and that there had been nothing suppressed which any one gentleman present would say ought to have been inserted. When it was said that it was impossible for the President, who would take one view, to fairly represent the views of a gentleman who took the opposite side, it was forgotten that it was quite possible that another gentleman on the Committee might hold the opposite view; and therefore both sides would be fully represented. Gentlemen who had been sitting on the Council even for one year must know that there was an immense amount even of what might be called public business which was not suitable for publication. There were many matters coming up affecting different individuals which it would be most injurious to publish, at any rate when they were first mentioned. Therefore, there were many matters of really public business which must be carefully and only partially reported; but he would move, as an amendment,

> "That a Committee be appointed to consider the advisability of admitting other reporters to the meetings of this Council, and that the shorthand-writer's notes of the past year be put into the hands of the Committee, in order that it may be seen whether any matter which it would have been desirable to publish has been suppressed."

He thought it would be much more satisfactory to appoint a committee without affirming the principle now; because the matter must be looked in the face, and they must consider who they were going to invite. If reporters in general were admitted, they could not exclude one and admit another; and all papers connected with the trade, and perhaps the medical journals, might claim to send reporters, which he thought would be very inconvenient.

Mr. Williams, said he would second the amendment in order that it might be discussed, because he thought the real question was whether they should have one reporter under their own control, or other reporters not under their own control, and he was certainly an advocate for having one reporter under the control of the Council. In his opinion it would be very objectionable to have strangers present whom they could not control in any way, or direct as to what should be published and what not.

Mr. Savage said he would much rather leave it to the gentlemen who were accustomed to report proceedings of public meetings. He had sufficient confidence in reporters to believe that they would not publish anything improper.

Mr. Owen supported the resolution, and said it would be quite competent to the Council to request the reporters to leave the room if any private matter were under discussion.

Mr. Urwick said he fully agreed with publicity himself, and was quite willing to trust to the reporters, who, he was sure, generally speaking, flattered most people in their reports. He should therefore support Mr. Betty, but with the understanding of a Committee being appointed, because he did see difficulties in the way.

Mr. Stoddart said there were certain difficulties, but if these could be obviated, he saw no objection to reporters being present.

Mr. Schacht hoped Mr. Sandford would not press his amendment, for it would be a very invidious and unpleasant task if any committee, such as he proposed, were to be appointed to have to go through all the shorthand writer's notes of the past year and report whether the publication committee had done their duties honestly and fairly. On the abstract principle, as far as he understood the matter, he thought there ought to be the fullest possible publication of their proceedings, and he could not help thinking that in any public business the more gentlemen were aware that whatever they said would be reported, the more careful they would be as to what they said, and their deliberations would be conducted with more dignity, and perhaps with better judgment. There would, no doubt, be a difficulty here and there, but he had expected to hear much more on that point than he had. The only point of much consequence appeared to be that occasionally questions arose touching individuals in the trade which would naturally not be laid before the whole world; but all such personal questions might surely be discussed beforehand in committee, and they would not be broached in the Council-room until the matter had been completely sifted and verified. He certainly hoped that Mr. Betty's motion would be carried unanimously, and thought they would then find that the Council and its constituents generally would be at one.

Mr. Baynes thought the reporting might be safely left in the hands of the reporters, who were, as far as his experience extended, free from any political or other bias, and were thus able to report any matter which came before them freely, fairly, and impartially. He was quite sure that those gentlemen would exercise a reasonable discretion, and that no one need fear anything being improperly published. With all respect to the gentlemen who had acted as the publication committee, he though it must be a most unpleasant duty for them to supervise the speeches of gentlemen from whom they might materially differ, and it would be exceedingly difficult for them in such a case to give the whole force and effect of what was meant by the speaker. A reporter having no feelings whatever on the matter would see very much clearer what the speaker was aiming at, and if he was obliged to report only one-fourth of what was said, he would make the speech a much better one in reading than it was when delivered.

Mr. Sandford said, in order to meet Mr. Schacht's objection, he would omit the last words of his amendment respecting the reporter's notes, and substitute for them the following words: "*in order to assist them* (*the committee*) *in the consideration of the matter*." He really wished they would look through the reports, because there was a sort of charge against the committee of having suppressed matters.

Mr. Sutton said Mr. Schacht had nearly expressed his views on the matter, but he should like to put forward a second amendment to the effect:—

> "That the reporter now engaged to take shorthand notes at the Council meetings be required to take full reports of the proceedings of Council, and that the same be published in the Journal, except in so far as may be otherwise ordered by the Council."

Mr. Brown said he should vote for Mr. Betty's motion, and he did not see that there was any occasion for Mr. Sandford's amendment, because the motion was that such reporters as the Council should decide to invite should be admitted, and the Council might, and he thought very probably would, decide that they would only invite one reporter, the same as at present. He did not think it all desirable that any reporters who might apply should be present, and thought it more than likely that as heretofore the Council would decide to invite only one. He did not think there was any risk of private matters being reported in an undesirable form, because he believed that when it was known that the proceedings of the Council were more fully reported, and that the shorthand writer exercised simply his own discretion, subject to the supervision of the Editor of the Journal, the proceedings would be very materially shortened and another advantage would be secured that the committees would do their work much better than they did at present. There was another means of getting rid of any difficulty with regard to personal matters which always would be coming up for discussion, and that was to refer them to the General Purposes Committee, which could be summoned for any time, and which consisted of all the members of the Council.

Mr. Sandford said after what Mr. Brown had said he would withdraw his amendment, but it certainly put a new complexion upon the motion. He understood Mr. Betty desired the Council to affirm the principle that other reporters should be admitted, whereas Mr. Brown said he did not accept that interpretation.

Mr. Hills said he had objected previously to the admission of reporters altogether, but the time for that had passed by, and he would now support the motion if Mr. Betty would confine it to one reporter. He was quite content for their own reporter to make his reports as full as he chose, and, if he liked, to supply them to other journals. He was therefore quite prepared to support Mr. Betty after Mr. Brown's explanation—at any rate, that they should only have one reporter to begin with.

Mr. Sandford said if they were not now affirming the principle that other reporters should be admitted, he would vote with Mr. Betty.

Mr. Betty said he could not ask for Mr. Sandford's vote under the slightest misapprehension as to his meaning. It was entirely a matter of principle whether their proceedings should be made public or not, and he was not to be bound down or hampered in the wording of the resolution as to how it should be done. He wanted to affirm the principle that there should be general reporting and full reporting.

Mr. Sandford said there might be the fullest reporting with their own reporter.

Mr. Betty said it would be open for the committee to appoint one reporter, but he would not bind them to do so, nor in any way prejudge the questions submitted to them.

Mr. Brown said he must not be misunderstood. He most entirely agreed with the principle that it was desirable that the proceedings should be fully reported, but he thought it more than probable that when the committee came to deliberate on this subject, they would consider it desirable, at any rate for the first twelve months, to have only one reporter. This was a great and radical change, and they must have time to get accustomed to it.

Mr. Sandford said he would withdraw his amendment, because the discussion would stand on record, and would show in what way the motion was voted for and carried, and that they were not pledging themselves to the admission of other reporters.

The President said that there was still Mr. Sutton's amendment; but, before putting it, he would say a word or two, having had a good deal to do with the publication of the proceedings. If anything had been kept back, it was not from any desire on his part. No doubt many would remember that on more than one occasion, when a particular question had been brought forward, he had asked the Council whether the discussion should be reported or not, and the answer had been in the negative. Sometimes, again, he had asked gentlemen, after the Council, whether they would like their remarks reported in full, and they had replied, "Not exactly." For himself, he had no objection to publishing every word that was spoken, and he thought they might be published from the notes of their own reporter quite as well as from any others. The only objection he saw to the motion was that the word "reporters" was used in the plural. He thought one reporter sufficient, and that he should be the one engaged by the Council; he could see no advantage in having two or three reporters.

Mr. Sutton said he must press his amendment, because he thought the principle to be decided upon really was, whether one reporter or more should be present. He thought there should be one only, but that no restriction should be put upon his discretion in reporting the proceedings.

The amendment was then put and lost, and the original motion, as altered by Mr. Brown, was put as a substantive motion and carried.

It was then moved by Mr. Betty, seconded by Mr. Baynes, and resolved—

> "That a Committee be appointed to inquire into and report to the Council the best means of carrying into practice the vote of the Council for the admission of a reporter or reporters, and that the following be the Committee:—Messrs. Betty, Bottle, Hampson, Mackay, Sandford, Savage, Sutton, Urwick, and Williams."

> "That the President, Vice-President, and Mr. Sandford be appointed a Committee, *pro tem.*, to superintend the publication of the proceedings of the present Council."

This was seconded by Mr. Savage, and carried unanimously.

Messrs. Richard Warner and Frederick Paul Carter, wholesale druggists, of Charterhouse-square, have dissolved partnership, and the business is now carried on under the style of Warner and Co.

Trade Memoranda.

Mr. John Meredith, from Decastro and Co., Wilton-place, London, has taken the business of Mr. John Jones, of Brecon, who retires.

Mr. J. N. McNeil, of Macclesfield, has succeeded to the business of J. Taylor, Victoria-street, Crewe, deceased.

Contracts.—Oxford Incorporation: Colza oil for thirteen weeks, June 17th; Littlemore Asylum, oils for three months, June 24th; Warwick County Lunatic Asylum, white-lead, oils, and turpentine for six months, June 17th.

Mr. Routledge (formerly of Berwick-on-Tweed) has taken the business of the late R. Lewins, of Morpeth.

On Tuesday last a fire broke out and destroyed the warehouses of Mandall and Co., Stockton-on-Tees, wholesale druggists, damages estimated at £12,000.

Mr. Lindsey, of Taunton, has removed to Rochdale, and assumed the business of Mr. Whitehead in Yorkshire-street.

LAW AND POLICE.

MALICIOUS DAMAGE TO CHEMICALS.

At the Manchester County Police-court, the other day, a man named Nugent, formerly employed by Mr. J. Levinstein, chemical manufacturer, of Blackley, was charged with having maliciously spoiled about £40 worth of aniline blue, the property of his master. The prisoner, who was under a three years' engagement with the prosecutor, had, until recently, performed all his duties thoroughly, and had given satisfaction to his employer. Subsequently, however, he became dissatisfied, and expressed a desire to be discharged, saying, as an explanation of this desire, that he could obtain £2 10s. per week elsewhere, instead of the 22s. paid him by Mr. Levinstein. The latter refused to accede to this request. A few days afterwards a batch of the aniline blue was heated to 309 degrees (the utmost proper heat being 284 degrees), and it was consequently spoiled. The defendant was then summarily discharged without notice, as the complainant was afraid that he might probably do further damage. Evidence was adduced to show that the prisoner, in thus damaging the blue, must have acted from malicious motives, and that the occurrence could not have been accidental. Indeed, he had remarked to Mr. Levinstein, when remonstrated with for his reprehensible conduct—"I will give you £5 if you will sack me; I want to be sacked, for I can get another place at 50s. per week." He also threatened to stop another workman, to whom his duty was entrusted, from "going so fast." For the prosecution it was urged that this evidence showed the vindictive and malicious motives which had actuated the defendant. On the part of the latter, the defence raised was to the effect that he had not acted maliciously, and had no intention of damaging the property. It was stated, moreover, that the blue might have been spoiled through another workman using caustic or ammonia too freely; but the magistrates ultimately committed the prisoner for trial, admitting him to bail in £40, and two sureties for £20 each.

GRAVE CHARGE AGAINST A CHEMIST.

At the Manchester Police-court, Bryan B. Cowgill, wholesale chemist and druggist, carrying on business at Sowerby Bridge, was recently charged with obtaining by false pretences thirty bottles of comaline, and also with stealing a quantity of lampblack. From the evidence it appeared that Mr. Mitchell, an auctioneer, had held a sale of salvage stock saved from the recent fire at Messrs. Woolley's premises, in Market-street, Manchester, and the sale was attended by the defendant, who made several purchases. After the sale thirty botttles of comaline, which had not been sold, were missed; and Detective Shandley went to Sowerby Bridge and saw Cowgill, who produced all the goods he should have bought at the sale, amongst them being the thirty bottles of comaline. Shandley then told him he must come to the Police-station, when the prisoner, under pretence of getting a cup of tea, endeavoured to escape by a back door. He was caught, and the warrant read to him, when he said he had taken nothing but what was given to him. Inspector Shandley subsequently searched the prisoner's premises, and found a cask containing lampblack, which had also been missed by Mr. Mitchell, and the prisoner said he could not account for the possession of it. The prisoner had bought some bottles of comaline at the sale, but they were half-crown bottles, while those found on his premises were five-shilling bottles. Mr. Leresche contended, for the prisoner, that the goods were removed by him in mistake, caused by the neglect of the auctioneer's assistants; and that the "running away" spoken to by Inspector Shandley was merely the prisoner going to his back premises for his hat. The case of the lampblack was accounted for in a similar manner; and Mr. Headlam, observing that there must have been great confusion, discharged the prisoner.

LANDLORD AND TENANT.

At the Hanley Borough Police-court, on the 8th inst., a herbalist, who styles himself Dr. Thompson, and who also practices street preaching, was charged with having stolen furniture, fixtures, &c., the property of Mr. Scarlett, druggist. The vegetarian had rented a furnished house from the prosecutor, and had recently "sold off" and disappeared. He was apprehended on the 7th inst. at Clay Cross Station as he was about to take his departure for the lace metropolis. Prisoner has been remanded.

ASSAULTING A WIFE.

At the Birmingham Police-court, on the 16th ult., Thomas Follows, chemist, Digbeth, was charged with assaulting his wife, on the 12th ult., and also beating her in the Bull Ring on the morning of hearing the case. The magistrates fined defendant £5, or two months' imprisonment, for the assault, and ordered him to find two sureties of £25 each, and himself in £50, or in default of finding sureties to be imprisoned for another month.

A MASTER'S POWERS.

At the Liverpool Police-court, on June 6th, a boy named William Tunstall summoned William Humble Garthwaite, chemist and druggist, Pembroke-place, for having assaulted him. The complainant was an apprentice in the employ of the defendant. He stated that on the 23rd May, while dusting the shop, his master punched him in the ribs, and when he went to get his cap and jacket he (defendant) tore them both, and struck him as he was going out. Defendant said he remonstrated with the boy for being slow, impudent, and insulting; and on the day in question he was five hours dusting the shop, when he ought to have been only about an hour and a-half. He merely "nudged" him gently, and told him to be quick. As he became very saucy, he (defendant) boxed his ears, which he considered he had a right to do as his master. Mr. Aspinall said he had exceeded his powers; but as the lad had no doubt been very provoking, the bench would merely impose a nominal fine of 1s., and 4s. 6d. costs. If he had any complaint to make regarding his apprentice, he should have applied for a summons, instead of taking the law into his own hands.

FELONY BY A CHEMIST'S ASSISTANT.

At the Garston Petty Sessions, on June 6th, George Lee Powell, a chemist's assistant, out of employ, was charged with stealing 10s. 6d., the property of Mr. Morris, chemist and druggist, of 187, West Derby-road, Liverpool. The prisoner, who was formerly in Mr. Morris's service, was at the time of the robbery out of employ, but Mr. Morris befriended him and granted him the hospitality of his house, for which the prisoner sometimes assisted Mr. Morris in his shop. Having reason to suspect him, Mr. Morris marked a number of coins which he put into the till, and left the prisoner in the shop. Shortly afterwards eight marked shillings and a half-a-crown piece were missed from the till, and when the prisoner was charged with the theft, he produced a number of shillings which he said were his own, and although Mr. Morris identified eight of them as part of the marked money, Powell stoutly denied that he had robbed Mr. Morris. On being searched by the police officer £10 and the marked half-crown were discovered in his pockets. As the prisoner was out of employ it was thought that the £10 was also stolen from Mr. Morris, but there was no proof that such was the case. The prisoner now pleaded guilty, but endeavoured to show that Mr. Morris had not compensated him for services rendered for four years. This, however, Mr. Morris flatly denied, and said the prisoner's correspondence proved that the prisoner was under obligation to him and not he to the prisoner. He was sentenced to three months' hard labour.

THE SHIPMENT OF BENZINE.

At the Thames Police-court, on May 21, George Curling, manufacturing chemist, of No. 17, St. Mary Axe, City, was summoned before Mr. Lushington, charged with shipping a case of benzine without notifying the nature of its contents by writing or in print on the outside of the case or box. Mr. Charles Young, solicitor, appeared for the East and West India Dock Company. From the opening statement of Mr. Young, it appeared that seven cases were sent from the defendant's premises to the dock on the 9th of May. They were described and marked on the outside as "Patent Medicine." The cases were shipped on board the ship *Otago*, lying in the dock, on the 11th of the same month. One of the cases was afterwards found to be leaking, and on opening it, it was found to contain benzine. The other six cases contained patent medicine. There were four dozen bottles of benzine in the case, and on each that was labelled the benzine was described as being inflammable at 100 degrees Fahrenheit. The ship *Otago* was bound for New Zealand, and called at Erith to take a quantity of gunpowder on board. She also contained passengers for New Zealand. The case ought either to have been marked on the outside according to its contents, or information to Superintendent Sheppey, of the Dock Company's own police, who would have seen that the box was properly labelled, and the nature of its contents made known to the captain. The defendant said an order was sent down to his firm for the shipment of various articles. It was an act of carelessness that the case containing the benzine was not marked properly. He was totally unaware of the contents of the cases sent on board the *Otago* until he saw a bottle containing benzine. Mr. Lushington said that the defendant's explanation did not remove the burden from him in the smallest degree. An order had come to him to supply articles, and he ought to have known what was sent on board. The contents of the box were not described, nor was any intimation given to the superintendent of the dock. If the benzine had taken fire, it might have been the means of destroying a large amount of property, or if it had exploded during the voyage it might have produced fearful consequences. He saw no reason to mitigate the penalty, and fined the defendant £20 and 12s. costs.

In reference to the above case it is only just to Messrs. Curling and Co. to publish the following correction which appeared in the daily papers which reported the action. They say:—"In your report of the proceedings against our firm, for shipping a case of benzine without notifying its contents, it is stated in error that the case shipped and containing benzine had been described on the outside as 'Patent Medicine.' We beg to state that the goods were not shipped for our account, that the words 'Patent Medicine' were not written on the case, and that the consignee's mark and number 'P. H. & Co., 721,' were the only marks upon it. The omission of the word benzine, complained of by the dock company, arose from accident only. But the alleged false representation of the contents of the case as being 'Patent Medicine' (given in the report) obliges us to request a correction of the latter statement, as it is calculated to injure us, and is without the slightest foundation."

GAZETTE.

PARTNERSHIPS DISSOLVED.

Budgett, J. S. B. and G. F. **Davis**, Sandown and Shanklin, surgeons.
Corbyn and Co., Holborn, New Bond-street, and Poultry, chemists, (as far as regards J. and T. Messer.
Crowther, **Hallsworth**, and Co., Leeds, copperas manufacturers, as far as regards T. Birdsell.
Crowther, **Horatio**, and Co., Leeds, manufacturing chemists.
Fryer, T. and T. G. P. **Hallett**, St. Mary Redcliff, Bristol, surgeons.
Handford and **M'Beath**, Atherstone, Warwickshire, surgeons.
Hanks, **James**, and J. **Thompson**, Snaith, Yorkshire, surgeons.
Lewis and Co., Kingston-upon-Hull, and Great Yarmouth, seed crushers.
Lloyd, W. and T. H., Carnarvon, chemists and druggists.
Ratcliffe, M., W. **Sewell**, and J. **Gregory**, Salford, carbon manufacturers, so far as regards M. Ratcliffe.
Ree and **Lee**, Walham-green, surgeons.
Rowlands, A. C. and J. **Evans**, Devizes, chemists.
Sandford, F. V. and J. H. **Waters**, Jermyn-street and Weymouth-street, surgeons.
Spear, J. J. and A. J. **Share**, Turk's-row, Chelsea, mineral water agents.
Walsh, W., and E. **Walsh**, Oxford, chemists.
Warner, **Carter** and Co., Charterhouse-square, wholesale chemists.
Wearne and **Stephens**, Helston, surgeons.

BANKRUPTS.

Bewicke, **David**, Hackney-wick, varnish manufacturer.
Schmitt, **Gerard von**, Brook-street, Grosvenor-square, doctor of medicine.

Correspondence

CAUTIONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—Permit me to inform your readers of a "new dodge" lately practised in this locality.

A short time since, a well-dressed young man entered my shop, and after apologising for the liberty, &c., stated that he had come from Liverpool to London in order to obtain a situation as an assistant in a London house, but not having succeeded he was at that time penniless and homeless, as in consequence of being in arrears with his rent, his landlord had cruelly refused him entrance, and he was literally upon the street.

Upon expressing some surprise that amidst the many advertisements for assistants he had not found one to suit him, he replied that he was invariably refused on account of having come from the country.

Under these circumstances I relieved his immediate necessities, and told him to call on the following Wednesday, as I knew a gentleman a few miles from town who might, perhaps, employ him. Wednesday came, and so did my *protégé*, whom I introduced to my brother chemist; an arrangement was soon made by the high contracting parties, and the address of a chemist in Liverpool was given, to whom we were to apply for the character of this very interesting and plausible individual.

Pending the reply from Liverpool, my friend undertook to show this "young man from the country" which station he was to start from, and after instructing him as to the time, and train by which he should come down, took him into a refreshment-room, and gave him a good meal. Later in the day I was again favoured with a visit from this "nice young man" who told me that he had made every arrangement with Mr. ———, who, having but little money with him, had directed our mutual acquaintance to draw from me whatever cash he might require in order to fit him out for his new place. This I at once refused to do, as my friend had not said anything to me about it; I, however, gave him something to keep him afloat until we heard from Liverpool, and directed him to call again.

Need I say that I have never since seen this clever trickster, and that he was utterly unknown to the party in Liverpool.

Should this enterprising individual attempt anything of the kind upon any of your readers, I hope they will show him the door.

Yours truly,
J. Richardson.

448, Kingsland-road,
23rd May, 1872.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—Certain of the light-fingered fraternity are going about seeking to take as many chemists' cash-boxes as possible. The trick is to inveigle the chemist out of his shop when he happens to be alone in it. For this purpose No. 1 drives up to the door in a neat turn out, and engages the unfortunate chemist's attention by giving directions for a prescription which he wishes made up, and whilst the chemist's back is turned so that he cannot possibly see what is going on in his own shop, No. 2 steps in, and having previously ascertained the whereabouts of the box, coolly walks off with it. Then does No. 1 gaily drive away to pick up his confederate, and escape with their booty.

I, and a gentleman at Brixton, were victimized last month.

I am, Sir, obediently yours,

Kilburn. F. TEBBUTT.

NOTES AND QUERIES

Y. Z.—A lady, just the same as a gentleman, whose name is on the register of chemists and druggists may be the proprietress of any business in Great Britain. She may carry on a dozen chemists' businesses if she wishes to do so, and she is under no legal obligation to employ a "registered assistant as manager."

Advertisers who adopt initials should be acquainted with the following Post-office regulation, which it will be understood refers only to London, and is intended as a check to swindling:—"Letters addressed to Initials only, or to fictitious names, are not delivered from the Poste Restante, or any district or branch office in London.

Mr. J. Dove (*Sherborne*).—We will bear your wishes in mind.

Mr. E. T. Carrington (*Wincanton*).—You ask for a formula for hair dye, but omit to state what colour you wish to dye the hair. A case of death from the employment of nitrous oxide gas for teeth extraction appears in this number, which is worth your perusal.

S. W.—The "pills" which you refer to are composed of sulpho-cyanide of mercury, and are very poisonous. They were called *Pharaoh's serpents' eggs* when first introduced. The following is the process for making them:—Take mercury, and dissolve it in moderately dilute nitric acid, by means of heat, taking care, however, that there be always an excess of metallic mercury remaining: decant the solution and pour it into a solution of sulphocyanide of ammonium or potassium; equal weights of both will answer. A precipitate will fall to the bottom of the jar, which is to be collected on a filter and washed two or three times with water, after which it is put in a warm place to dry. Take for every pound of this material one ounce of gum tragacanth which has been soaked in hot water. When the gum is completely softened, it is to be transferred to a mortar, and the pulverized and dried precipitate gradually mixed with it by means of a little water, so as to present a somewhat dry pill mass, from which pellets of the desired size are formed by hand, put on a piece of glass and dried again; they are then ready for use. A substitute, said to be as good as the above, and superior in not being poisonous, is prepared in the following way:—Take bichromate of potassa 2 parts, nitrate of potassa 1 part, and white sugar 3 parts; pulverise each of the ingredients separately, and then mix them thoroughly. Make small paper cones of the desired size, and press the mixture into them. They are now ready for use, but must be kept from light and moisture. For your other query see answer to *C. D.*

In reply to *A. B.* in our last we are advised that Steiner and Co., Henry-st., Burdett-rd., Limehouse, sell the bellows for insect powder.

A Subscriber.—SALE OF QUININE WINE.—We published a letter in November, 1867, from the Board of Inland Revenue, in which it was stated that a sweet's licence was not necessary for the sale of wine of citrate of iron and quinine wine "so long as they are prepared as directed in the Pharmacopœia, and sold to be used as medicines."

Mr. C. E. Perks (*Hitchin*).—Your milk of roses and other perfumery preparations are very good, but are not sufficiently special for us to notice more prominently.

ENGLISH AND GERMAN SCALES.—*Mr. S. C. Sagar, of Swinton, Manchester*, writes us details of some tests to which he has put scales of English and German workmanship, which show that as far as his experiments go, the former are by far the most delicate.

Mr. Waite (*Selby*).—BLACK OILS.—Mix the sulphuric acid with the turpentine gradually, leaving the vessel open to allow the heat to escape; mix the other ingredients separately, and when all action has ceased, mix the two solutions.

C. A. P. (*Kentish Town*).—INK ERASER.—A strong solution of oxalic and tartaric acids in equal proportions will remove ink marks, and if applied carefully, will not greatly injure the paper, though of course it will destroy any colour.

C. H.—PHARMACY ACT.—We cannot exactly advise you to break the law, but you might be nominally assistant to the present proprietor of the business you wish to purchase until you have passed the examinations. The penalty you would be liable to, if you despise our advice is £5. The gentleman you refer to has a good literary and scientific reputation, and would help you considerably

F. J.—We will publish a formula for Syr. Calcis Lacto-Phosph. in our next.

C. D.—Thanks for the twopence, but we are willing to do all this sort of work without reward. Tomes' Manual of Dental Surgery (12s. 6d. Churchill) is the best work you can have.

Tim Bobbin (*Rochdale*).—Robinson on the Teeth. Price 10s.

Exchange Column.

REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to "The Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

WE have received the following communications in reference to the Exchange Column:—

Dear Sir,—Your Exchange Column is a capital idea. I sold all the books, &c., I advertised, and had to return the stamps to several of the applicants.—Yours very truly,

HENRY HIGGINSON, M.P.S. 1847.

Dear Sir,—I could have disposed of my nest of drawers four times over. I believe it was because they were less than half cost, and why advertisers do not find purchasers is that they fix too high a price. I have answered several, and in one or two instances could have got the same thing new at price advertised.—Your respectfully,

GEORGE CHEVERTON.

WANTED.

A Camera Obscura. 8/503.

Robinson "On the Teeth." State price and what edition. 19/503.

THE CHEMIST and DRUGGIST for 1869. O. J., 108, Long-acre, London, W.C.

Hooper's "Medical Dictionary;" perfect. Send price. Anstey, Chemist, Bath.

A Homœopathic Medicine Case. State lowest price. L. R., 309, New North-road, N.

A Pair of Mahogany Shop Chairs; One Dozen 30-oz. Oil Bottles. Portbury, Devizes.

Richardson's "Mechanical Dentistry." Last edition. State price and condition. 21/503.

A Set of Surgical Instruments. Send particulars to "Lancet," 27, Milton-street, Nottingham.

Attfield's "Chemistry," Bentley's "Botany." Last Editions. Cheverton, Tunbridge Wells.

York Glass Company's Percolators; Displacement Apparatus, any size. Cash or exchange. Cheverton, Tunbridge Wells.

British Pharmacopœia; Royle's "Materia Medica;" Bentley's "Botany;" Bentham's "British Flora." Latest editions. State price required. 20/503.

FOR DISPOSAL.

Gibbs' Sheep-Dipping Apparatus; nearly new. Cocher, Lynn.

Formula for Healing Cuts and preventing Fly in Sheep. 3s. Woodward, Bridgewater.

Ten doz. Mohr's Turkish Galvano-Magnetic Silver Anodyne. 7s. 6d. doz. E. Crawshaw, Burnley.

Erichsen's "Surgery." In first-class condition. 1853 edition. Cost 25s. Price 8s. 20/503.

A Berri's £3 3s. Printing Machine, nearly new. Price £2 2s. Address, M., 15, Market-place, Salisbury.

Forty Tins Golding's Flower and Plant Food. Shilling size. Lot for 12s. Cheverton, Tunbridge Wells.

Fifteen Books English Gold Leaf, 1s. 2d. each, or part 1s. 3d. each. O. J., 108, Long-acre, London, W.C.

Chemist's Stock and Fixtures for Sale cheap. Southwell, Chemist, Boston.

Original Formula of Cheddar Cliff Bouquet. 5s. H. Seymour, Okehampton, Devon.

Small Patent Platform Weighing Machine. Weighs 3 to 4 cwt. J. Marcham, Chester.

Pharmaceutical Journal, vols. vii. to xii. 1865 to 1870. Neatly bound. C. J. Kirkman, Stratford, E.

Chemicals and Apparatus. Value £5. Detailed list on application. J. B. Laxton, Gurney-road, London, E.

Ten 6d. and 4 3d. Shepherd's Caustic for Sheep. 4 1s. 6d. Gostling's Condition Balls. Offers wanted or exchange. 40/503.

Eight-cell Daniel's Battery, porcelain and glass; nearly new. 30s. Packed in box. H. Seymour, Okehampton, Devon.

Camera Lenses; Tincture Press; Apparatus; Lamps; Victualler's "Manual." Offers. Carrington, Chemist, Wincanton.

Gabriel's Preparations for the Teeth. Cash or exchange. Electro-Magnetic Machine on Marble Stand, 15s. Cost 30s. 46/503.

Hancock's Registered Air-Bed, Chair, Cushion. New, wholesale, 55s. Cash 35s., or exchange. Cheverton, Tunbridge Wells.

50 gross Seamless India-rubber Teats. 30 gals. Old Brown Cod-liver Oil. 56 lbs. Lint. S. R., 309, New North-road, Islington, N.

Five Hundred dozen (or less) Indian Vegetable Flesh Rubbers, at 2s. 6d. per dozen. Apply to G. Dowman, Chemist, Southampton.

Nine 1/9 Hoff's Malt Extract. 9 3s. 6d. Wallington's Quinine Hair Wash; half-price or exchange. Upton, Chemist, Wallingford.

A Chemical Chest. Cost 6 guineas new. Price £3. Capital Sperm Oil Butt, in splendid condition, at 2½d. per gal. G. Drury, Chemist, Southwell.

One 7s. 6d. Thermoterion. 1 7s. 6d. Dolby's Patent Food Warmer. 2 3s. Mamma Feeding Bottles. Offers wanted or exchange. 41/503.

One Leech Aquarium; 1 lb. P. Sang. Draconis; 1 lb. Sem. Sinapis; 2 Pair of Scales for Counter; 2 lb. Antim. Nig. C. J. K., 11, Globe-crescent, Stratford, London, E.

Beautiful Camera, Lens, Stand, Porcelain Bath; a number of Glasses, Picture Frames, Collodion. Price, the whole, £4; cost £12. Caunt, Buckley, near Mold.

Quantity of Vulcanite Combs (brass backs); Lawrence's Horse-hair Gloves; Liebig's Malted Food; Perfume Stand (Maw's) as Fig. 54. Tirrell, Chemist, Hanley.

A Square Mahogany Specie Jar Stand, 16 in. square, 5 in. high; also 2 13½ in. square, 3 in. high. 8s. the lot, or offers. Cheverton, Tunbridge Wells.

A quantity of Shop Rounds, Quarts, Pints, ½-Pints, &c.; Syrup Bottles; Extract Jars; and 7 Show Carboys for Windows. Full particulars on application. 4/503.

Road's "Analysis" (Qualitative and Quantitative), 10s. Barff's "Chemistry," 2s. Statham's 12/6 Chest, 6s. John Tully, jun., East Grinstead.

Complete Outfit of Small Laboratory. 9 dozen Stoppered and 4 dozen Plain Bottles containing Chemicals, with all Apparatus, etc. A bargain. £6. 32/503

Binocular Microscope, first-class, with Polariscope, quite new; in handsome polished mahogany cabinet, only £10 10s. Apply, B., 151, Hoxton-street, London.

Neligan's "Medicines," 4th edition, 5s. British Pharmacopœia, 1864, 4s. Ruddock's "Homœopathic Vade Mecum," 3rd edition, 4s. Highway, Chemist, Walsall.

A Formula for very superior Baking Powder, cheap and good; or the Powder supplied packed or in bulk at a low figure. Jenner, Chemist, Hailsham, Sussex.

Two doz. 2s. 6d. Comaline Restorer, ½ doz. 2s. 6d Comaline Gloss, 17s. 6d. doz. ½ doz. 5s. Comaline Restorer, 36s. doz. Delivered free. J. Staley, Chester-road, Manchester.

Five 1s. Sarg's Liquid Glycerine Soap. 2 1s. 6d. Condy's Ozonised Water. 3 3s. 6d. Ross's Hair Dye. 6 6d. and 6 3d. Chloralum Powder. Offers wanted or exchange. 39/503.

Rhinde's "History of Vegetable Kingdom," uncut. Cost 23s., take 16s.; "Fowne's "Chemistry," last edition, clean, 10s.; Chemical Apparatus and Bottles. "Homo," 9, South-street, Scarborough.

Chlorodyne: A Formula for preparing—is equal to the best make at a cost of 2s. 6d. per lb. Copies 5s. each; or the Chlorodyne (with proportions of active ingredients) supplied at 3s. 6d. per lb. Jenner, Chemist, Hailsham.

One and a-half lbs. Rosa Solis, 7s. Owen's "Compendium," 2s. 3d. Disraeli's "Character of Men of Genius," 2s. 6d. Swedenborg's "Conjugal Love" and "Heaven and Hell," 3s. each. 30 lbs. Pica, No. 24, Type (new), and Double Case 36s. 31/503.

Owen's "Compendium;" Receipts and Processes of Pharmacy, Chemistry, Confectionery, Perfumery, Cosmetics, Homœopathy, Essences, Wines, latest Discoveries and Improvements. New impression. 13 stamps. Invaluable. Owen, Chemist, Stratford.

A Horizontal Reversible Engine and Boiler, about half-horse power, suitable for a small drug-mill. Quite new. £6. Also a Set of highly-finished Tooth-scaling Instruments; never been used. 5s. R. Halford, Chemist, 301, New John-street West, Birmingham.

A New and Antiseptic Treatment of Gonorrhœa and Gleet. Will ensure rapid, successful, and permanent cures in the most obstinate cases. Prescriptions, with full instructions, free for 49 stamps. M.R.C.S., Mr. Barry, Conduit-street, Leicester.

Three 8s. Warberg's Tincture; 8 1s. Howard's Enamel; 14 1s. 1½d. Virginian Gum; 1½ lbs. Nectar; 1 lb. Raspberry; 1 lb. Strawberry; 2 qts. Pine-apple Flavours. Offers wanted. Also 2 Pulvermacher's Belts, in good condition, original price 70s., for 35s. Harvey, Chemist, Penzance.

A Formula for preparing Chlorodyne equal to Collis Brown's, and no perceptible difference either in taste, appearance, or effect; cost of preparing less than 4s. per lb. Copies 5s. each, or the article supplied at 5s. per lb. Halford, Chemist, 301, New John-street West, Birmingham.

For 31 stamps will be sent an Original and Infallible Prescription, together with full Instructions for curing Spermatorrhœa. Every case treated has recovered quickly. The remedies are uncommon, and different from the usual medicines employed in these cases. M.R.C.S., Mr. Barry, Conduit-street, Leicester.

Chemical Apparatus for Sale, consisting of Flasks, Evaporating Basins, Measures, Test Tubes, Gas Bag, Receivers, Drying Bath, wide and narrow-mouthed Stoppered Bottles, Precipitating Glasses, and every requisite for a student's laboratory, at little above half cost price. 42/503.

Ice-cream Soda-water Machine (only used a few weeks), with 6 Syrup Taps, Marbles Top, Sides, and Front, Ice-Cutter, and Syrup Freezer. Copper Cylinder (8 gal.) complete for immediate use. Tumblers and Silver-plated holders. Cost over £50. For quick sale £40 will be taken. 51/503.

Two each 1s. 1½d. size of Hempsted's Ess. Sea-weed, Chapman's Universal Plaster, De Roos' Renal Pills; 3 each Cooper's Neuralgino, Pott's Gout Pills; 4 Dodd's Gout Pills; 1 Churchill's Hypophosphite of Soda, 4s. 6d.; 1 Mulready's Cough Specific, 2s. 9d.; 1 Samaritan Water; 2 each 1s. size Smith's Scouring Drops; and 1 Carbolic Lozenges. Jenner, Chemist, Hailsham.

Surplus Stock:—10 ozs. Ol. Copaibæ; 2 lbs. Extract ditto, 8s. 6d.; 1¼ lb. Extract Colocynth Co., rather dry, 7s. 6d.; 12 ozs. Pulv. Castoreum Ver., 7s. 6d.; 6½ lbs. Canada Balsam, 9s.; 3 lbs. Ol. Anethi Opt., 22s. 6d.; Pill Machine, 2 to 5 grains, without rollers, to cut 18, good condition, 7s. W. Rogers, Chemist, World's End, Stepney, E.

One-gallon Conical Percolator, with Tap. 2 2-pints and 2 3-pints Briet's Gazogenes. ¾-doz. Williams's (Bath) Lozenges at 7½d. 5-doz. Cooper's Fly Powder, 6d. 3 doz. Cooper's Wheat-dressing, 6d. 1 lb. Pink and Amber Gelatine in Sheet. 2 2s. and 1 3s. 6d. Robbins' Æther. 4 1s. Jackson's Sapiue. 1 2s. 6d. Panaristo's D. Candy, 2s. 6d. Ben and Luckman's Label Damper. 1 doz. Maw's Disinfecting Cups, 6d. 10 Pain's Azymes, 6d. 1 doz. 1s. Respirators. For sale or exchange. Reasonable terms. S. D., Market-place, Stroud.

Two splendid Specie Jars, Square Mahogany Stands. Cost £9 10s. Price £7. 36 ℥xvj N. M. Stoppered Bottles, Labels in good condition, 20s. Marble Mortar, 16 in. diameter, Pestle, and Stand, 25s. A Large Solid Mahogany Desk, with two drawers beneath and glass case on top, 25s. Iron Retort Stand, 24 in. high, 4s. Set of Troy Weights, ℥xvj. to ʒij., 3s. Marbled Earthenware Filter (Fig 2, Maw's), 15s. Half-gallon Displacement Apparatus, minus tap, 10s. 21 Upright Store Bottles, Black Glass, Metal Caps, 30s. Water-Bath and Still combined, 3s. Polished Deal Show Steps (like Maw's, Fig. 19 without carved work), 10s. 6 Polished Wood Show Vases, 6s.; cost 15s. Leech Aquarium, 10 in. diameter, 5s. 21 Stock Boxes, 10s. Would exchange for a nest of drawers not more than 10 ft. long, or 4 ft. 4 in. high, or 10 in. deep. H. J. Thomas, Chemist, Bath.

LIEBIG ON STIMULANTS.

A CORRESPONDENT has interviewed Baron Liebig, the celebrated German chemist, at his home in Munich, and gleaned his views upon the lager question. "Beer," said the Baron, "is better than brandy. Man must have a stimulant of some sort. Brandy is a great evil. We find that the consumption of beer making great headway even in wine districts—for instance, in Stutgart. As a nourishment, beer takes a very subordinate place, not higher, indeed, than potatoes; and we find that in no city is there such an amount of meat consumed as in Munich, where the greatest quantity of beer is also consumed. Beer must have meat or albumen. Before every beer cellar in Munich, you will find a cheese stand. Why? Because in cheese you will find that albumen which in beer is lacking. Therefore you see that beer and cheese go together by a law of Nature But as an article of nourishment, beer is very subordinate Schnapps is a great misfortune, and destroys the working power. Through our late war, we have won great respect for tobacco, tea, coffee, and extract of meat. A physician told me that, when the wounded would take nothing else, they have grasped at cigars; their eyes glistening—they felt a lifting up of the sinking nerves. Tobacco must have this effect. We could not do our wounded, frequently, a greater service than by giving them cigars. And we came to the conclusion that tobacco was valuable to us." Baron Liebig evidently looks to America for an improvement in beer and the perfection of beer-drinking. Said he: "It is a peculiarity of Americans that they make everything better than we do. I am convinced that American beer will, in time, be better than German. With us everything remains as it was. The worst beer brewers are in Bavaria, though it was earlier the best. And why? Look into our brewery system. The brewers are only ignorant people, who brew good beer from routine alone. They are incapable of helping themselves. But as soon as the Americans get anything from us they improve upon it, and we get it back again as an American discovery."—*Scientific American.*

COMMERCIAL TRAVELLERS IN AMERICA.

THE *Utica Herald* thus writes of that much-abused class, the commercial travellers:—

Most noticeable, both for voice and manner, are hosts of "drummers," who know everybody; whose fund of stories is never exhausted; who travel to the best of our belief all night, and who sell goods and customers all day; (we never heard of one's being caught asleep, indeed we believe they never sleep), who keep one eye ever open for business, and the other constantly watchful for car flirtations. Men whose clothes, although of good material, have a general air of having been worn several weeks without being removed; whose "cheek" is boundless; whose tongue is tireless. They are the exclamation points in the history of modern travel. They are the most constant of all classes in the patronage of the hotels, flattery of the servant girls, and the abuse of the porters. They are comets of business astronomy, eccentric in orbit and appearance. They possess much of the shrewdness of the old Yankee pedlars, together with more of their own, and they increase in numbers, in ingenuity, in persistency, and in everything with every year. While they resemble each other, each class has peculiarities of its own. The New York drummer may be known by his diamond, by his restlessness, by his pocket full of illustrated papers, and by his assumption of superiority over all other drummers. The Boston drummer wears clothes of a milder cut, displays the most faultless taste as to travelling bags, is particular as to the gloss of his hat; but for all that, wears the distinctive marks of his profession in his face, and tells his profession in his manner. The Philadelphia drummer follows his New York brother, and renders him the homage of close imitation.

TRADE REPORT.

FROM the Board of Trade Returns recently published, it is manifest that commercial activity suffers no appreciable diminution as the year progresses. The declared value of our exportations last month show an increase of £1,671,423, or nearly 9 per cent. over the corresponding month of last year, and 24 per cent. over that of 1870. In estimating the value of these statistics, the fact must not be lost sight of that the cost of production of our chief articles of export has undergone a considerable advance.

Allowing this consideration to have due weight, the results are so satisfactory as to justify congratulation and inspire future confidence. That the latter feeling so essential in commercial transactions can obtain full sway, however, whilst a great International difference remains unsettled, is impossible. Hence the anxiety with which the *Alabama* Treaty and its surroundings have been regarded for months past. Thanks to "diplomacy" the questions in dispute between this country and the United States cannot be settled in an ordinary business-like manner, and therefore discordant and dangerous elements must still inhabit the field of International politics.

We are very glad to observe that the United States Legislature has enacted a new tariff, which will doubtless have the effect of very considerably increasing our trade with that country. The new tariff is to come into operation on July 1st, and it is estimated that the total reductions of duty provided will involve a decrease of thirty millions of dollars to the United States revenue. We had hoped to have been able to give the particulars of the new tariff so far as they would concern manufacturing chemists and wholesale druggists; but until we got the official particulars it will be undesirable to publish a statement. The abstract published by the *Times* is evidently inaccurate in some particulars. It mentions, for example, in one part of its report that quinine is to be exempt from duty, and in another place that 10 per cent. *ad valorem* duty is to be charged. Chemicals, drugs, dyes, and medicines are also classed as exempt-but numbers of chemicals are charged with varying duties, and we are also told that "on medicinal preparations not specified, 30 per cent. *ad valorem*" is to be charged. The American Consul has courteously promised us the earliest information; but unfortunately, it has not arrived in time for our publication this month.

The market during the past month has been inactive, but at the same time the most important staple articles have sustained previous values.

Camphor is slightly easier, and the amount of business done in this article has been limited. On the spot 87s. 6d. is the quotation; buyers offer 85s. afloat, but these terms are not considered sufficiently good to warrant sales. Cardamoms are still arriving, and have been bought on rather better terms. The crop in Malabar is said to be inferior in quality to that of previous seasons. Honey has been selling readily to meet the demand which always arises at this time of year. At auction 108 barrels Chilian sold dull to palish at 38s. to 43s. 6d. Of 42 casks West Indian, 28 sold, ordinary to fair at 32s. to 47s.; and 11 casks Australian dark and rather dark at 25s. to 28s.

Musk.—There is rather a scarcity of all kinds, and the market continues very firm.

Opium has ruled quiet. Of 177 cases Turkey submitted for disposal only about 8 cases sold, the remainder being bought in. The true position of this article is to some extent disguised by the practice almost invariably resorted to of buying in. It seems a superfluous waste of time to pass a considerable parcel under the hammer merely to take it back and quote reserved prices. Of course if bids were forthcoming the lots would go off, but their destination would be "spotted," and this would not suit the parties concerned. Hence a tacit understanding seems to prevail that dealings in this important drug should be kept as much in the back ground as is possible, and as most of the opium which comes to the London market passes through the hands of one firm of brokers, the mystery which enshrouds it is the easier maintained. We are not anxious to benefit speculators at the expense of the trade, but we fear our information comes from reliable sources that the coming crop will only be about three-fourths of last year's. Present quotations are 20s. for fine picked, 17s. 6d. to 18s. for ordinary descriptions, and 15s. to 16s. for common.

Copaiba Balsam is still in limited supply, and has brought a further rise. A single barrel was put up at auction on the 6th to be sold without reserve. It was introduced as "Balsam, or what it may be," a description of a sufficiently general character, but certainly warranted by the appearance of the stuff. For this desirable lot 1d. per lb. was bid; this was not quite good enough, and the lot was bought in to be privately disposed of. Such spurious kinds of Balsam are not unfrequently met with in the market, castor oil and turpentine being frequent adulterants.

Cocculus Indicus continues somewhat scarce, and quotations are nominal. 114 bags were withdrawn at last sales, and are held for an advance.

GUMS.—Olibanum.—The supply is large and sales have been effected both privately and otherwise at full rates. 654 cases were offered last week, and 200 sold at previous prices. The *Stowell*, from Bombay, arrived on the 11th inst., with 3,218 cwt. Gamboge is very quiet, and to effect sales lower prices would have to be taken. Assafœtida is now coming forward, and still commands a ready sale on easier terms. Good bright Arabics have been well inquired for. 100 bales Turkey dark block, said to be fresh water damaged, were eagerly bid for at auction, the first lot selling at 11s., and the remainder at 14s. to 18s. This damaged gum will probably be utilised in the manufacture of liquid gum. Myrrh has sold steadily, but in Kino no business has been done, and only very fine quality would attract buyers.

ESSENTIAL OILS. — Aniseseed: The speculative feeling having somewhat subsided, the price has slightly given way, and it may now be quoted at 11s. The stock is large. Citronelle continues to be the medium of considerable speculation, and it is asserted that the late high prices have induced holders in Ceylon to ship their entire stocks. Clove is firmer, and a rising tendency is apparent.

ROOTS.—Rhubarb has been in active request, and all kinds are dearer, fine being much wanted. Of 203 cases offered at recent sales, only 40 sold; the remainder were bought in, and are being held for higher prices. Ipecacuanha maintains former value, and China is rather lower. For Colombo there has been a fair demand, and 232 packages out of 305 were sold last week, good fair rather wormy 33s. to 34s. 6d., fair ditto, partly dull, 30s.

DRYSALTERIES. — Turmeric: Both Bengal and Madras have met a steady demand at firm prices. Stock of all descriptions up to May 31st was 2,656 tons, against 1,794 tons same time last year. China Galls have been sold to arrive at 55s. Spot prices are steady at 56s. to 57s. 6d. There are no Japan here. Safflower continues to be somewhat neglected. From Calcutta a statement is to hand which sets forth the estimated stock at 16,000 maunds, and the quality is not favourably reported on. Madder Roots: Bombay are much wanted, and would probably realise 40s., or even more. Shellac: The market is very unsettled, and there has been but little desire to operate, sales being small, and effected on lower terms. We understand that large supplies of low rosiny character have recently been sent to Calcutta from the interior with a view to shipment probably to this country or America. Some lots have been found to contain between 30 and 35 per cent. of resin, and in some instances as much as 50 per cent.

SPICES.—The principal feature in the market has been the rise in Zanzibar Cloves, which are worth nearly double the price quoted last month. The speculative demand has resulted from the information which makes it almost certain that the supply from Zanzibar will be curtailed for a considerable time. The terrific cyclone which swept over the island on the 15th April seems to have been most disastrous to the Clove plantations, and almost all the trees have been destroyed. This damage can hardly be overestimated, as it takes fifteen years to develope a full-bearing tree, and the produce then is only about 2 lbs. Hence it would appear that years must elapse before the Clove trade of Zanzibar attains its former magnitude. The deficit in the supply of the spice in the markets of the world will hardly be made up by increased exports from the Molucca Islands, where the cultivation of the Clove tree is so extended that it can hardly be pushed further. We apprehend, therefore, that the contracted supply will permanently affect prices. Red Peppers have, like Cloves, suffered severely. Cinnamon: The second quarterly sales of the year were held on the 27th May, and were exceptionally small, the quantity down for disposal being 995 bales Ceylon, and 188 bales Tellicherry, against a total of 3,439 bales at the February auctions. Notwithstanding the limited supply the lots went off without much animation, and a slight advance only was established on the February sales. Pepper has been ruling quiet latterly, but Nutmegs and Mace have recovered, and with a steady demand firmer prices have been paid.

CHEMICALS.—The market is less animated, but the export demand continues fairly steady, and America has been taking good supplies of Alkalies. In Acids: Tartaric gave way for a short time, but with a renewal of demand, has recovered. Citric rather quiet, and oxalic the medium of freer business. Both chlorate and bichromate of potash have been fairly inquired for, at previous quotations. Bleaching powder not quite so lively, and less money accepted. Cream of Tartar also lower, and procurable last week at 105s, since then the demand has improved, and 107s 6d is now wanted. Copper still increases in value, and its sulphate has gone off freely, 33s being present value. Refined saltpetre has been in fair request at easier rates. Vermilion: 40 boxes China were submitted to auction on the 23rd of May, and found eager buyers at 4s. to 4s. 3d. per lb. At the same time 3 cases of Iodide of Copper from Iquique were put forward. The analysis of this rather unusual article showed it to contain 57·30 per cent. Iodide and 25·10 copper, and it was sold at 1s. 1d. per oz.

OILS.—The demand for Olive has shown no material improvement, and quotations are still lower. Rape has been rather inactive, but Linseed has experienced a good demand with an advance in price, and has still an upward tendency. Both Seal and Whale have been well inquired for, but there is a great scarcity of stock. There has been but little demand for crude Sperm, which tends downwards. Turpentine has gradually receded from its late strong position, and now moves off slowly. American Spirits, 55s. French 52s. to 53s. For Petroleum the demand has been limited, as is usual at this season of the year.

Monthly Price Current.

[The prices quoted in the following list are those actually obtained in Mincing lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.

	1872.		1871.	
	s. d.	s. d.	s. d.	s. d.
ACIDS—				
Acetic ....per lb.	0 4½	to 0 0	0 4	to 0 0
Citric ....per lb.	3 8½	0 0	2 11	0 0
Hydrochlor. ....per cwt	4 0	7 0	4 0	7 0
Nitric .... per lb.	0 5	0 5¼	0 5	0 5½
Oxalic .... ,,	1 1½	0 0	0 9½	0 10
Sulphuric ...... ,,	0 0¾	0 1	0 0¾	0 1
Tartaric crystal .. ,,	1 7	0 0	1 2¾	0 0
powdered ,,	1 7½	0 0	1 3	1 3¼
ANTIMONY ore......per ton	270 0	290 0	240 0	260 0
crude ..per cwt	40 0	0 0	36 0	38 0
regulus.. ,,	0 0	0 0	46 0	47 0
star .... ,,	72 0	75 0	48 0	49 0
ARSENIC, lump...... ,,	18 6	0 0	15 6	16 0
powder.... ,,	7 6	0 0	0 9	7 3
BRIMSTONE, rough ..per ton	145 0	150 0	160 0	0 0
roll ....per cwt	10 0	0 0	10 0	10 3
flour.... ,,	12 0	12 6	12 0	13 0
IODINE, dry ....per oz.	1 11	0 0	1 0	0 0
IVORY BLACK, dry..per cwt.	8 6	0 0	0 0	0 0
MAGNESIA, calcined..per lb.	1 2	1 3	1 1	0 0
MERCURY....... per bottle	205 0	0 0	200 0	222 0
MINIUM, red ......per cwt.	21 3	21 6	20 6	21 0
orange .... ,,	31 6	32 0	31 6	0 0
PRECIPITATE, red ....per lb.	3 7	0 0	3 5	0 0
white .. ,,	3 5	0 0	3 4	0 0
PRUSSIAN BLUE ...... ,,	0 0	0 0	0 0	0 0
SALTS—				
Alum ....per ton	160 0	170 0	135 0	140 0
powder .... ,,	180 0	0 0	145 0	150 0
Ammonia:				
Carbonate ......per lb.	0 7	0 7¼	0 6½	0 6¾
Hydrochlorate, crude, white........ per ton	680 0	0 0	460 0	560 0
British (*see* Sal Ammoniac)				
Sulphate ......per ton	429 0	440 0	380 0	390 0
Argol, Cape ......per cwt	65 0	90 0	45 0	79 0
France .... ,,	0 0	0 0	0 0	0 0
Oporto, red ,,	24 0	27 0	22 0	24 0
Sicily .... ,,	60 0	0 0	0 0	0 0
Naples, white ,,	60 0	0 0	0 0	0 0
Florence, white	0 0	0 0	0 0	0 0
,, red ,,	0 0	0 0	0 0	0 0
Ashes (*see* Potash and Soda)				
Bleaching powd..per cwt.	14 0	14 3	13 6	14 0
Borax, crude .... ,,	60 0	75 0	45 0	60 0
(Tincal) .. ,,	47 0	65 0	45 0	60 0
British refnd. ,,	95 0	0 0	75 0	80 0
Calomel ....per lb.	3 4	0 0	3 4	0 0
Copper:				
Sulphate ......per cwt.	33 0	34 0	22 6	25 0
Copperas, green ..per ton	60 0	62 6	50 0	60 0
CorrosiveSublimate..p.lb.	2 8	2 9	2 7	0 0
Cr. Tartar, French, p. cwt.	107 6	0 0	92 6	95 0
Venetian grey ,,	110 0	0 0	95 0	0 0
brown ,,	0 0	0 0	75 0	85 0
Epsom Salts ....per cwt.	5 9	6 3	6 0	7 0
Glauber Salts .... ,,	4 6	6 0	4 6	6 0
Lime:				
Acetate, white, per cwt.	14 0	22 6	12 6	23 0
Magnesia: Carbonate ,,	42 6	45 0	42 6	0 0
Potash:				
Bichromate ....per lb.	0 8	0 0	0 0	0 6½
Carbonate:				
Potashes, Canada, 1st sort ......per cwt.	41 0	41 6	36 6	0 0
Pearlashes, Canada, 1st sort ......per cwt.	59 0	60 0	41 0	42 0
Chlorate ....per lb.	1 8	0 0	1 4	1 4½
Prussiate ...... per lb.	1 7	0 0	1 4	0 0
red .... ,,	3 1	3 2	2 0½	2 2
Tartrate (*see* Argol and Cream of Tartar)				
Potassium:				
Chloride ......per cwt.	9 9	10 0	11 0	12 0
Iodide.......... per lb.	36 0	0 0	16 0	17 0
Quinine:				
Sulphate, British, in bottles ...... per oz.	7 9	0 0	7 2	0 0
Sulphate, French ,,	7 6	0 0	6 10	0 0
Sal Acetos ....per lb.	1 4½	0 0	1 0	0 0
Sal Ammoniac, Brit. cwt.	48 0	49 0	41 0	42 0
Saltpetre:				
Bengal, 0 per cent or under ......per cwt.	28 3	29 0	26 9	28 0
Bengal, over per cent. per cwt.	27 0	28 0	25 0	26 9
Madras........ ,,	0 0	0 0	0 0	0 0
Bomb & Kurrachee p.ct.	0 0	0 0	0 0	0 0
European...... ,,	0 0	0 0	0 0	0 0
British, refined ,,	32 6	33 6	30 6	31 6
Soda: Bicarbonate, p.cwt.	16 3	16 6	12 6	9 0
Carbonate:				
Soda Ash....per deg.	0 3	0 0	0 2¼	0 2¼
Soda Crystals per ton	130 0	0 0	95 0	0 0
Hyposulphite..per cwt	16 0	17 6	18 0	0 0

	1872		1871.	
	s. d.	s. d.	s. d.	s. d.
Soda:				
Nitrate ....per cwt.	16 0	to 16 6	15 0	to 16 3
SUGAR OF LEAD, White, cwt.	45 0	0 0	39 0	40 0
Brown .... ,,	31 0	0 0	26 0	28 0
SULPHUR (*see* Brimstone				
VERDIGRIS .... per lb.	1 1	1 3	1 0	1 2
VERMILION, English..per lb.	3 6	3 8	3 6	0 0
China.... ,,	4 0	4 3	3 6	0 0

DRUGS.

	1872		1871.	
	s. d.	s. d.	s. d.	s. d.
ALOES, Hepatic....per cwt.	100 0	240 0	80 0	220 0
Socotrine .. ,,	160 0	460 0	120 0	320 0
Cape, good.. ,,	27 0	28 0	23 0	25 6
Inferior ,,	22 0	26 0	17 0	24 0
Barbadoes ,,	75 0	208 0	70 0	200 0
AMBERGRIS, grey........ oz.	24 0	29 0	25 0	30 0
BALSAM —				
Canada .... per lb.	1 6	0 0	0 10	0 11
Capivi .... ,,	2 5	0 0	1 11	2 0
Peru .... ,,	9 4	9 6	9 6	0
Tolu .... ,,	1 9	1 11	1 10	0 0
BARKS—				
Canella alba ....per cwt.	15 0	25 0	15 0	25 0
Cascarilla........ ,,	22 0	37 0	20 0	36 0
Peru, crown & grey per lb.	1 6	3 1	0 10	2 5
Calisaya, flat ,,	3 2	3 4	3 2	3 6
quill ,	3 2	3 4	3 2	3 6
Carthagena ,,	0 10	2 0	0 10	1 10
Pitayo .... ,,	0 9	1 10	0 10	1 6
Red .... ,,	1 10	0 0	2 0	7 0
Bucho Leaves ...... ,,	0 4	1 3	0 6	0 10
CAMPHOR, China.. per cwt.	86 6	89 6	68 0	70 0
Japan ,,	87 6	9 0	72 6	75 0
Refin Eng. per lb.	1 4½	1 5	1 2	0 0
CANTHARIDES ...... ,,	7 0	0 0	5 3	0 0
CHAMOMILE FLOWERS p. cwt	45 0	70 0	40 0	62 6
CASTOREUM .... per lb.	3 0	30 0	3 0	30 0
DRAGON'S BLOOD, lp. p. cwt.	100 0	132 6	90 0	210 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)				
Anise, China Star pr cwt.	130 0	132 6	110 0	0 0
German, &c. ,,	35 0	40 0	44 0	50 0
Beans, Tonquin .. per lb.	1 0	1 8	0 9	1 6
Cardamoms, Malabar good ,,	7 0	7 6	6 6	7 6
inferior ,,	6 0	6 9	4 0	6 0
Madras ,,	2 6	7 0	3 6	7 0
Ceylon ,,	4 0	4 3	2 8	2 10
Cassia Fistula.. per cwt.	12 0	30 0	12 0	30 0
Castor Seeds .. ,,	10 0	12 0	10 0	12 0
Cocculus Indicus ,,	18 0	20 0	14 0	17 6
Colocynth, apple.. per lb.	0 3	0 6	0 3	0 6
Croton Seeds .. per cwt.	54 0	58 0	77 0	82 6
Cubebs .... ,,	25 0	28 0	25 0	28 0
Cummin........ ,,	42 0	50 0	90 0	105 0
Dividivi .... ,,	12 0	15 0	12 0	14 0
Fenugreek...... ,,	12 0	22 0	17 0	25 0
Guinea Grains .. ,,	47 0	50 0	23 0	24 0
Juniper Berries ,,	11 6	12 6	15 0	15 6
Myrobalans .... ,,	14 6	18 0	10 0	15 6
Nux Vomica.... ,,	10 6	13 6	11 0	14 0
Tamarinds, East India ,,	2 0	14 0	5 0	12 0
West India, new ,,	20 6	39 0	10 0	16 6
Vanilla, large .... per lb.	41 0	55 0	27 0	37 6
inferior ,,	23 0	39 0	10 0	25 0
Wormseed per cwt.	0 0	0 0	0 0	0 0
GINGER, Preserved, in bond (duty 1d. per lb.) per lb.	0 6½	0 10½	0 6	0 10
GUMS (*see separate list*)				
HONEY, Chili .... per cwt.	38 0	50 0	36 0	57 6
Cuba .... ,,	35 0	50 0	25 0	42 0
Jamaica.. ,,	32 0	50 0	35 0	52 0
IPECACUANHA .... per lb.	5 6	5 8	6 0	6 6
ISINGLASS, Brazil.. ,,	2 6	4 3	2 6	4 3
Tongue sort ,,	3 3	5 2	3 6	5 0
East India ,,	1 4	4 1	1 6	3 11
West India ,,	3 10	4 3	3 9	4 2
Russ. long staple	6 0	9 6	5 6	8 0
,, leaf ,,	3 6	6 6	8 0	5 6
,, Simovia	2 0	3 6	2 0	3 6
JALAP, good ...... ,,	1 6	2 8	1 9	3 2
infer. & stems ,,	0 0	1 5	0 6	1 7
LEMON JUICE ... per degree	0 1	0 1⅛	0 1	0 1½
LIQUORICE, Spanish per cwt.	35 0	37 0	0 0	0 0
Italian ,,	40 0	60 0	40 0	60 0
MANNA, flaky .... per lb.	3 3	3 6	3 6	4 0
small...... ,,	1 10	2 0	2 0	2 2
MUSK............... per oz.	20 0	50 0	21 0	36 0
OILS (*see also separate List*)				
Almond, expressed per lb.	1 1	0 0	1 2	0 0
Castor, 1st pale .... ,,	0 5½	0 0	0 5½	0 5¾
second .... ,,	0 5	0 5¼	0 4¾	0 5
infer. & dark ,,	0 4½	0 5	0 4½	0 0
Bombay (in casks)	0 4¼	0 4½	0 0	0 0
Cod Liver ......per gall.	4 0	5 0	5 0	6 0
Croton............per oz.	0 3½	0 4½	0 3½	0 4½
Essential Oils:				
Almond ....per lb.	35 0	0 0	42 0	0 0
Anise-seed ...... per lb.	11 0	11 1	8 9	0 0
Bay ....per cwt.	65 0	70 0	65 0	70 0
Bergamot ......per lb.	8 0	18 0	8 0	15 0
Cajeput, (in bond) per oz.	0 1½	0 3	0 2½	0 3
Caraway ....per lb.	5 6	6 3	5 6	6 3
Cassia .... ,,	6 0	0 0	4 8	4 4
Cinnamon ......per oz.	0 10	6 6	1 0	4 6
Cinnamon-leaf.. ,,	0 4	0 6	0 2	0 6

	1872.					1871.				
Essential Oils, *continued*:—	s.	d.		s.	d.	s.	d.		s.	d.
Citronelle ......per oz.	0	2¼	to	0	2⅜	0	2	to	0	0
fine.... ,,	0	2½	..	0	0	0	2¼	..	0	0
Clove............per lb.	0	0	..	0	0	2	4	..	0	0
Juniper .... ,,	1	9	..	2	0	1	9	..	2	0
Lavender........ ,,	3	6	..	6	0	3	6	..	6	0
Lemon.......... ,	10	0	..	18	0	5	0	..	9	0
Lemongrass ....per oz.	0	4⅞	..	0	5	0	2⅝	..	0	2⅞
Neroli .... ,,	0	5	..	0	6	0	5	..	0	6
Nutmeg .... ,,	0	4	..	0	7½	0	4	..	0	7
Orange..........per lb.	7	0	..	8	0	5	0	..	7	0
Otto of Roses....per oz.	12	0	..	21	0	12	0	..	21	0
Patchouli ...... ,,	4	0	..	4	3	3	0	..	0	0
Peppermint:										
American ....per lb.	13	0	..	14	0	15	6	..	17	0
English ...... ,,	30	0	..	33	0	33	0	..	34	0
Rosemary ...... ,,	1	9	..	2	0	1	9	..	2	0
Sassafras........ ,,	3	0	..	3	6	3	0	..	3	6
Spearmint ...... ,,	4	0	..	16	0	4	0	..	16	0
Thyme.......... ,,	1	10	..	2	0	1	10	..	2	0
Mace, expressed .. per oz.	0	1½	..	0	3	0	1½	..	0	3
OPIUM, Turkey ...... per lb.	19	0	..	20	0	23	0	..	25	0
inferior ...... ,,	12	0	..	19	0	14	0	..	22	0
QUASSIA (bitter wood) per ton	80	0	..	85	0	60	0	..	70	0
RHUBARB, China, good and fine ....per lb.	2	3	..	6	0	2	0	..	6	4
Good, mid. to ord. ,,	0	5	..	2	0	0	4	..	2	0
Dutch trimmed ,,	9	0	..	9	6	0	0	..	0	0
Russian .... ,,	0	0	..	0	0	0	0	..	0	0
ROOTS—Calumba..per cwt.	23	0	..	40	0	25	0	..	42	0
China .... ,,	22	0	..	23	0	22	0	..	24	0
Galangal .... ,,	16	0	..	19	0	15	0	..	17	0
Gentian .... ,,	20	0	..	22	0	27	0	..	30	0
Hellebore ...... ,,	30	0	..	32	0	30	0	..	35	0
Orris............ ,,	65	0	..	73	0	65	0	..	80	0
Pellitory .... ,,	60	0	..	63	0	58	0	..	60	0
Pink..............per lb.	0	9	..	1	3	0	9	..	1	3
Rhatany.......... ,,	0	4	..	0	11	0	5	..	0	11
Senoka............ ,,	4	10	..	5	0	4	0	..	4	3
Snake .... ,,	1	2	..	0	0	0	11	..	1	0
SAFFRON, Spanish .. ,,	30	0	..	38	0	35	0	..	44	0
SALEP ....per cwt.	170	0	..	200	0	110	0	..	0	0
SARSAPARILLA, Lima per lb.	0	8	..	0	11	0	6	..	0	7¾
Para.............. ,,	1	0	..	1	3	1	0	..	1	3
Honduras .... ,,	1	2	..	1	8	1	2	..	1	7
Jamaica .... ,,	1	7	..	2	11	1	7	..	3	2
SASSAFRAS ....per cwt.	0	0	..	0	0	0	0	..	0	0
SCAMMONY, Virgin ..per lb.	26	0	..	32	0	25	0	..	29	0
second & ordinary ,,	10	0	..	25	0	10	0	..	23	0
SENNA, Bombay .... ,,	0	1¾	..	0	5	0	3½	..	0	6
Tinnivelly .... ,,	0	2¼	..	1	4	0	4	..	1	6
Alexandria........ ,,	0	3¼	..	1	7	0	3½	..	1	7
SPERMACETI, refined.. ,,	1	6	..	0	0	1	6	..	1	7
American .... ,,	1	2	..	1	3	1	2	..	1	3
SQUILL.............. ,,	0	1	..	0	2	0	1½	..	0	2
GUMS.										
AMMONIACI drop ..per cwt.	130	0	..	180	0	80	0	..	155	0
lump .. ,,	60	0	..	100	0	55	0	..	75	0
ANIMI, fine washed ,,	300	0	..	340	0	260	0	..	320	0
bold scraped ,,	230	0	..	290	0	200	0	..	250	0
sorts ...... ,,	160	0	..	260	0	120	0	..	200	0
dark ...... ,,	100	0	..	150	0	75	0	..	110	0
ARABIC, E. I., fine pale picked .. ,,	70	0	..	84	0	70	0	..	57	6
srts, gd. to fin ,,	60	0	.	69	0	57	6	..	69	0
garblings.. ,,	25	0	..	50	0	25	0	..	45	0
TURKEY, pick. gd to fin. ,,	160	0	..	200	0	160	0	..	200	0
second & inf. ,,	85	0	..	150	0	85	0	..	150	0
in sorts .. ,,	65	0	..	80	0	65	0	..	80	0
Gedda.... ,,	30	0	..	42	0	38	0	..	44	0
BARBARY, white .. ,,	0	0	..	0	0	0	0	..	0	0
brown .. ,,	39	0	..	44	0	45	0	..	48	0
AUSTRALIAN ...... ,,	30	0	..	46	0	24	0	..	43	0
ASSAFŒTIDA, com. to gd ,,	60	0	..	122	6	35	0	..	100	0
BENJAMIN, 1st qual. ,,	180	0	..	500	0	160	0	..	400	0
2nd ,, ,,	150	0	..	210	0	150	0	..	215	0
3rd ,, ,,	65	0	..	85	0	40	0	..	85	0
COPAL, Angola red ,,	130	0	..	137	6	120	0	..	140	0
Benguela .. ,,	100	0	..	115	0	93	0	..	106	0
Sierra Leone..per lb.	0	3½	..	0	11	0	2	..	0	10½
Manilla ....per cwt.	20	0	..	37	0	16	6	..	43	0
DAMMAR, pale .... ,,	56	0	..	59	0	60	0	..	64	6
EUPHORBIUM ...... ,,	15	0	..	17	0	10	0	..	0	0
GALBANUM .... ,,	200	0	..	260	0	200	0	..	260	0
GAMBOGE, pckd. pipe ,,	300	0	..	350	0	260	0	..	300	0
GUAIACUM ....per lb.	0	9	..	2	10	0	9	..	2	10
KINO..............per cwt.	60	0	..	90	0	60	0	..	125	0
KOWRIE, rough.... ,,	24	0	..	82	0	20	0	..	33	0
scraped .. ,,	36	0	..	90	0	34	0	..	70	0
MASTIC, picked......per lb.	6	0	..	7	3	5	6	..	7	0
MYRRH, gd. & fine per cwt.	120	0	..	200	0	120	0	..	160	0
sorts......	80	0	..	125	0	80	0	..	115	0
OLIBANUM, p. sorts	73	0	..	79	0	75	0	..	77	6
amber & ylw.	07	0	..	72	6	65	0	..	73	0
garblings.... ,,	22	0	..	43	0	19	6	..	46	0
SENEGAL ....per cwt.	70	0	..	80	0	05	0	..	85	0
SANDARAC .... ,,	53	0	..	100	0	55	0	..	110	0
SHELLAC, Orange.... ,,	172	0	..	190	0	122	0	..	137	0
Liver...... ,,	160	0	..	170	0	110	6	..	125	0
THUS.............. ,,	20	0	..	20	6	16	0	..	0	0
TRAGACANTH, leaf.. ,,	200	0	..	450	0	200	0	..	410	0
in sorts ,,	110	0	..	180	0	110	0	..	180	0
OILS.										
SEAL, pale..........per tun	£42	0	..	0	0	£33	10	..	36	0
yellow to tinged ,,	38	0	..	40	0	32	0	..	35	0
brown........ ,,	34	0	..	0	0	31	0	..	0	0

	1872.					1871				
Oils, *continued*:—	£	s.		£	s.	£	s.		£	s.
COD................ per tun	34	0	to	35	0	35	10	to	0	0
WHALE, South Sea, pale ,,	37	0	..	38	0	34	0	..	0	0
yellow ,,	36	0	..	87	0	33	0	..	33	10
brown ,,	31	0	..	33	0	30	0	..	32	0
East India, Fish ,,	28	10	..	0	0	28	0	..	29	0
OLIVE, Galipoli ...... ,,	48	0	..	0	0	47	10	..	48	0
Trieste ...... ,,	47	0	..	47	10	0	0	..	0	0
Levant ...... ,,	45	0	..	46	0	45	0	..	0	0
Mogador...... ,,	44	0	..	0	0	44	0	..	0	0
Spanish ...... ,,	46	0	..	46	10	47	0	..	0	0
Sicily .... ,,	46	0	..	0	0	46	0	..	0	0
COCOANUT, Cochin.. per ton	40	0	..	0	0	50	0	..	0	0
Ceylon.. ,,	35	0	..	0	0	40	0	..	0	0
Sydney ,,	31	0	..	36	0	33	0	..	39	0
GROUND NUT AND GINGELLY:										
Bombay	0	0	..	0	0	0	0	..	0	0
Madras..................	35	0	..	37	0	43	0	..	44	0
PALM, fine	37	0	..	0	0	37	0	..	0	0
LINSEED	0	0	..	33	0	32/12/6		..	32	15
RAPESEED, English, pale ..	39	10	..	0	0	45	10	..	0	0
brown........	37	15	..	0	0	43	5	..	0	0
Foreign pale....	40	0	..	40	10	47	0	..	48	0
brown........	0	0	..	0	0	43	10	..	0	0
COTTONSEED	31	0	..	33	0	27	0	..	31	10
LARD....................	46	0	..	48	0	60	0	..	0	0
TALLOW	36	0	..	0	0	36	0	..	0	0
TURPENTINE, American, cks.	55	0	..	56	0	39	0	..	40	0
PETROLEUM, Crude	0	0	..	0	0	0	0	..	0	0
	s.	d.		s.	d.	s.	d.		s	d.
refined, per gall.	1	4	..	1	4½	1	5¾	..	1	6
Spirit ,,	1	2	..	1	3	0	9	..	0	0
SEEDS.										
CANARY ....per qr.	48	0	..	52	0	40	0	..	48	0
CARAWAY, English per cwt.	0	0	..	0	0	0	0	..	0	0
German, &c.....	0	0	..	0	0	0	0	..	0	0
CORIANDER	20	0	..	24	0	0	0	..	0	0
HEMP ....per qr.	40	0	..	44	0	44	0	..	48	0
LINSEED, English per qr...	0	0	..	0	0	0	0	..	0	0
Black Sea & Azof	61	0	..	62	0	63	0	..	0	0
Calcutta ,,	63	9	..	0	0	63	3	..	63	9
Bombay ,,	64	6	..	0	0	64	3	..	0	0
St. Petrsbrg. ,,	0	0	..	0	0	61	0	..	62	0
Mustard, brown..per bshl.	0	0	..	0	0	0	0	..	0	0
white.. ,,	8	0	..	9	6	9	0	..	9	6
POPPY, East India per qr.	61	0	..	62	0	60	6	..	0	0
SPICES.										
CASSIA LIGNEA ....per cwt.	90	0	..	105	0	105	0	..	121	0
Vera .... ,,	33	0	..	77	0	45	0	..	80	0
Buds .... ,,	125	0	..	137	6	125	0	..	145	0
CINNAMON, Ceylon, 1st quality ....per lb.	2	8	..	3	9	2	5	..	3	8
2nd do. ...... ,,	2	1	..	3	7	1	9	..	3	4
3rd do. ...... ,,	1	9	..	3	1	1	7	..	3	1
Tellicherry ...... ,,	2	9	..	3	2	2	7	..	3	0
CLOVES, Penang.... ,,	1	2	..	1	5¼	1	1	..	1	2
Amboyna........ ,,	0	7	..	1	0	0	4	..	0	6½
Zanzibar .... ,,	0	7	..	0	7	0	2⅞	..	0	3
GINGER, Jam., fine per cwt.	90	0	..	180	0	80	0	..	180	0
Ord. to good .. ,,	40	0	..	87	0	37	0	..	77	0
African.......... ,,	41	0	..	0	0	29	0	..	30	0
Bengal .... ,,	35	0	..	36	0	25	0	..	26	0
Malabar .... ,,	0	0	..	0	0	0	0	..	0	0
Cochin .... ,,	45	0	..	120	0	37	0	..	112	0
PEPPER, Blk, Malabar, per lb.	0	6¾	..	0	7¼	0	5⅞	..	0	6½
Singapore........ ..	0	7	..	0	0	0	5¼	..	0	5½
White, Tellicherry ,,	0	0	..	0	0	0	9½	..	1	2½
Cayenne .... ,,	1	3	..	1	8	0	9	..	1	6½
MACE, 1st quality ..per lb.	3	8	..	4	3	3	3	..	3	11
2nd and inferior.. ,,	3	1	..	3	7	2	8	..	8	2
NUTMEGS, 78 to 60 to lb.	3	4	..	4	1	2	7	..	3	10
90 to 80 ,,	3	2	..	3	3½	2	3	..	2	6
132 to 95 ,,	2	10	..	3	2	1	9	..	2	3
VARIOUS PRODUCTS.										
COCHINEAL—										
Honduras, black ..per	2	6	..	3	6	2	4	..	3	4
,, silver .. ,,	2	5	..	2	8	2	4	..	2	8
,, pasty .. ,,	2	4	..	0	0	0	0	..	0	0
Mexican, black .... ,,	2	8	..	2	9	2	5	..	2	9
,, silver .... ,,	2	5	..	2	6	2	3	..	0	0
Teneriffe, black....	2	4	..	4	0	2	4	..	3	6
,, silver.... ,,	2	3	..	2	0	2	3	..	2	6
PUMICE STONE ..per ton	120	0	..	150	0	120	0	..	150	0
SOAP, Castile ....per cwt.	35	0	..	0	0	35	0	..	0	0
SPONGE, Turk. fin pkd pr lb.	12	0	..	16	0	12	0	..	16	0
Fair to good .. ,,	4	0	..	11	0	4	0	..	11	0
Ordinary...... ,,	1	0	..	3	6	1	0	..	3	6
Bahama............ ..	0	6	..	2	6	0	6	..	2	6
TERRA JAPONICA—										
Gambier .. per cwt.	21	0	..	0	0	15	9	..	16	0
Free cubes ,,	22	6	..	24	6	18	6	..	21	0
Cutch ...... ,,	23	0	..	26	0	18	0	..	21	0
WOOD, DYE, Bar ..per ton	£3	10	..	£3/12/6		£4	5	..	£4	10
Brazil .... ,,	0	0	..	0	0	0	0	..	0	0
Brazilotto .... ,,	0	0	..	0	0	0	0	..	0	0
Cam .... ,,	17	0	..	20	0	18	0	..	24	0
Fustic, Cuba...... ,,	8	10	..	9	10	7	10	..	8	10
Jamaica .... ,,	6	0	..	8	0	5	10	..	6	15
Savanilla........ ,,	7	0	..	0	0	0	0	..	0	0
LOGWOOD, Campeachy ,,	9	10	..	10	0	9	10	..	10	0
Honduras ...... ,,	6	0	..	0	0	5	10	..	6	10
St. Domingo .... ,,	0	0	..	0	0	4	7/6	..	6	0
Jamaica .... ,,	4	5	..	4	10	4	10	..	4	17/6
LIMA, first pile.... ,,	8	10	..	10	0	9	0	..	10	10
RED SANDERS .... ,,	7	0	..	0	0	5	12	..	6	0